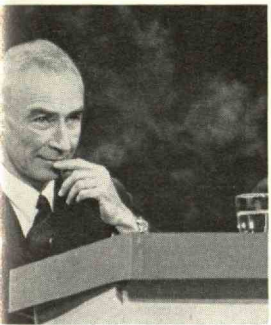
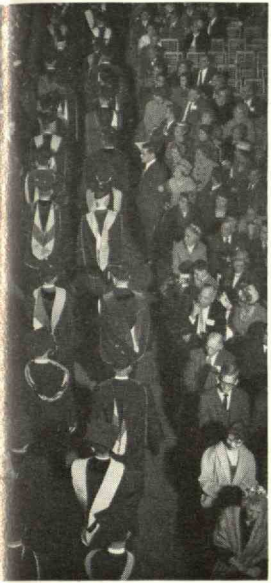


# Technology Review



## M.I.T.'s Centennial Celebration

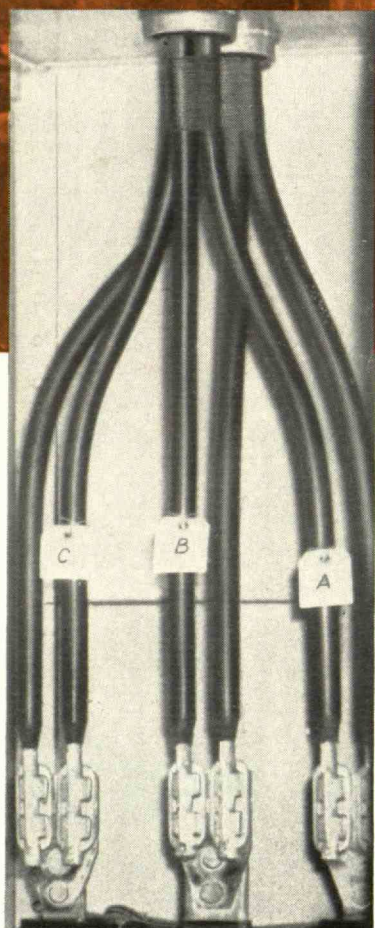
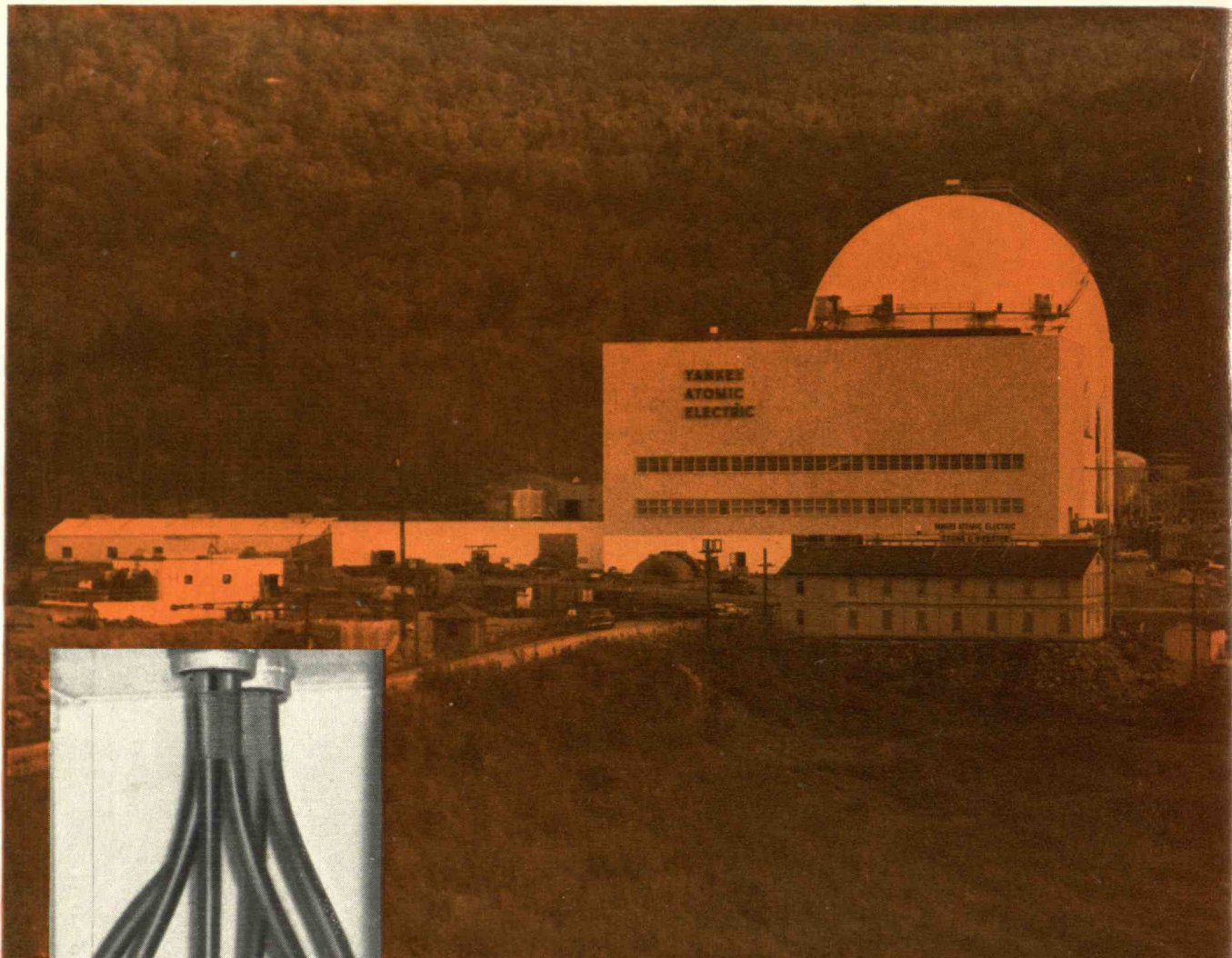


# technology review

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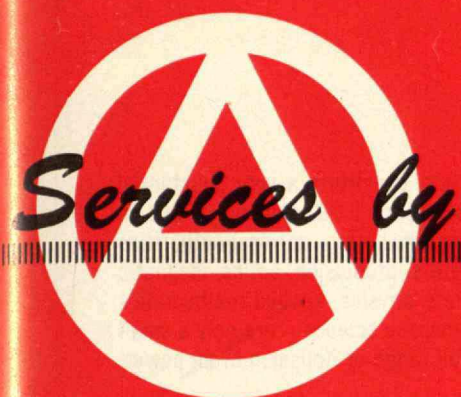
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## Feedback

### ADDERS to ATTERS

FROM R. E. MICHAUD, '47:

We at Computer Control Company were pleased to see the Lincoln Laboratory ADDERS and their applications described in the April issue. These units, in both Mark I and Mark II versions, were designed and constructed by Computer Control Company to Lincoln Laboratory specifications, using 3C standard products.

It is interesting to note that the Mark I ADDERS shown in your photograph have been returned to 3C for conversion to a new logical configuration. Using the same solid state digital modules, these units will henceforth function as Automatic Teletype Error Recorders (ATTERS).

Framingham, Mass.

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*Centennial pictures on the cover show the architectural exhibit, the academic procession, Dr. J. Robert Oppenheimer participating in a panel discussion, Dr. and Mrs. Stratton at the Faculty's party, Prime Minister Macmillan speaking, and students en route to Sturbridge Village for their celebration.*



*THE NEW HEAD of M.I.T.'s Department of Nutrition, Food Science, and Technology, Dr. Nevin S. Scrimshaw, is shown here participating in a health survey as part of his recent work with INCAP (the Institute of Nutrition of Central America and Panama). The circle on the throat means goiter, a grave health problem in INCAP's six-member countries.*

PHOTOGRAPHS in this issue were provided by the M.I.T. Photo Service and INCAP (at left), Phokian Karas (Cover and pages 40, 43, 45 and 47), Curtiss D. Wiler, '63 (Cover and page 29), Robert E. Schildkraut, '62 (Cover), Conrad E. Grundlehner, '64 (Cover), Philip Lieberman (page 39), and J. Frederick Laval (page 31).

EDITOR: Volta Torrey; BUSINESS MANAGER: R. T. Jope, '28; CIRCULATION MANAGER: D. P. Severance, '38; EDITORIAL ASSOCIATES: J. J. Rowlands, Francis E. Wylie, John I. Mattill; EDITORIAL STAFF: Ruth King, Muriel R. Roberts, Pauline Gates; BUSINESS STAFF: Madeline R. McCormick, Marianne G. Hagerty; PUBLISHER: H. E. Lobdell, '17.

The Technology Review is published monthly from November to July inclusive, on the 27th day of the month preceding the date of issue, by the Alumni Association of M.I.T.; Clarence L. A. Wynd, '27, President; H. E. Lobdell, '17, Executive Vice-president; Thomas F. Creamer, '40, William L. Taggart, Jr., '27, Vice-presidents; Donald P. Severance, '38, Secretary-Treasurer.

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Second-class postage paid at Concord, N. H.

# Individuals Noteworthy

## Intelligence Monitor

THE CHAIRMAN of the M.I.T. Corporation, James R. Killian, Jr., '26, has been made chairman of the President's Board of Consultants on Foreign Intelligence Activities.

This board was created by President Eisenhower and Dr. Killian served as its first chairman from 1956 to 1958. He also was President Eisenhower's first scientific adviser. President Kennedy reappointed Dr. Killian to the intelligence board.

## Commencement Speaker

FRANK STANTON, President of the Columbia Broadcasting System since 1946, will give the principal address when M.I.T.'s Class of 1961 is graduated on Friday, June 9.

Dr. Stanton was educated at Ohio Wesleyan and Ohio State Universities, and was an instructor in psychology at Ohio State before joining the research staff of the broadcasting system in 1935. He served CBS as research director, advertising director, and vice-president before becoming president.

Dr. Stanton is also a trustee of the Rand Corporation, a director of the New York Life Insurance Company, and has numerous other business and professional affiliations. He is a Fellow of the American Psychological Association and chairman of the Center for Advanced Study in the Behavioral Sciences.

## The Election Results

AS ITS PRESIDENT for 1961-1962, the M.I.T. Alumni Association has elected *D. Reid Weedon, Jr.*, '41, and as Vice-president, *Carroll L. Wilson*, '32. Two-year terms on the Executive Committee will be served by *Samuel A. Groves*, '34, and *Edward O. Vetter*, '42.

The nominees this year for Alumni Term Membership on the M.I.T. Corporation are John R. Kimberly, '26, Robert B. Semple, '32, and William B. Bergen, '37.

Alumni elected to the National Nominating Committee are: District 1, *Gilbert M. Roddy*, '31; District 2,

*Robert T. Dawes*, '26; District 4, *John H. Holton*, '17, and District 5, *Joseph Wenick*, '21.

## New Posts

NAMED in the news recently were the Alumni whose elections, promotions, and appointments follow:

*Henry W. Hills*, '20, *Leo J. Myskowski*, '28, and *Arthur Y. Taylor*, '46, as Directors, and *Thomas A. O'Brien*, '38, as Assistant Treasurer, Jackson & Moreland, Inc. . . . *Frederick O. A. Almquist*, '23, as Head of the Sanitary Engineering Division, Connecticut State Health Department . . . *Sargent D. Heath*, '24, as a Director, Washburn Company, Worcester, Mass.;

*Kenneth T. Bainbridge*, '25, as George Yasmer Leverett Professor of Physics, Harvard University . . . *Garvin A. Drew*, '25, as President, A. Schrader's Sons, Inc., Brooklyn, N.Y. . . . *Eben B. Haskell*, '26, as Assistant Vice-president, United Illuminating Company, New Haven, Conn. . . . *M. B. McDavitt*, '26, as Vice-president, Bell Telephone Laboratories, New York . . . *Gordon S. Brown*, '31, as a Director, Gorham Manufacturing Company;

*Victor J. Duplin, Jr.*, '31, as Vice-president, American Ceramic Society . . . *Howard L. Richardson*, '31, as President, The Stanley Works, New Britain, Conn. . . . *Philip A. Coleman*, '33, as a Director, the Bristol Brass Corporation, Bristol, Conn. . . . *Frank R. Milliken*, '34, as President and Chief Executive Officer, Kennecott Copper Corporation;

*D. Kenneth Finlayson*, '35, as Vice-president, Sales, Scientific Design Company, Inc. . . . *Charles R. Holman*, '36, as Vice-president, Manufacturing, Paint and Brush Division, Pittsburgh Plate Glass Company . . . *Webster H. Wilson*, '36, as President, Hazeltine Electric Corporation, Little Neck, N.Y.;

*Alfred E. Busch*, '37, as President, Keuffel & Esser Company, Hoboken, N.J. . . . *Charles R. Kahn, Jr.*, '37, as President, Wyant Conditioning Corporation, New York . . . *Paul R. DesJardins*, '38,



**SIR JOHN COCKCROFT** received the Atoms for Peace Award from **James R. Killian, Jr.**, '26 (at right) in the Kresge Auditorium during M.I.T.'s Centennial Week.

as Manager, Engineering Planning, Worthington Corporation . . . *Joseph A. Bergantz*, '41, as Dean of Chemical Engineering, the University of Buffalo;

*David B. Nicholson*, '42, as President, Kollsman Instrument Corporation . . . *William G. Abbott*, 3d, '44, as Manager of Industrial Engineering, Ensign-Bickford Company, Simsbury, Conn. . . . *Thomas Y. Carmody*, '44, as Sales Manager, Union Carbide Olefins Company, Division of Union Carbide Corporation;

*Walter E. Kulesa*, '45, as Merchandising Manager, Delco-Remy Division, General Motors Corporation . . . *Robert B. Davis*, '46, as Mathematics Coordinator, Faculty of Webster College, St. Louis, Mo. . . . *Roger P. Sonnbend*, '46, as national President, the Young Presidents' Organization, for 1961 . . . *George E. Brown*, '48, as Parts and Service Manager, Renault, Inc.;

*Cornelius L. Hudak*, '48, as General Sales Manager, Plume & Atwood Manufacturing Company, Thomaston, Conn. . . . *John H. Hughes*, '48, as Assistant Vice-president, American Mutual Liability Insurance Company . . . *Sidney C. Howell*, '49, as General Sales Manager, General Products, The Weatherhead Company, Cleveland . . . *Norman B. Champ, Jr.*, '50, as Vice-president, the Crane Company.

(Continued on page 6)



## Why Briquets Have Brand Names

The wonderful things charcoal briquets do for steak, hamburgers (and for the self-esteem of backyard chefs) have made them an increasingly popular supermarket item. Cabot, whose brand is one of the most popular is benefiting from this happy trend.

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## **Individuals Noteworthy**

*(Continued from page 4)*

### **Honors to Alumni**

MEDALISTS and recent recipients of other distinctions include:

*Flemmon P. Hall*, '21, Honorary Membership in The American Ceramic Society . . . *Nathan Cherniack*, '22, the Howard S. Cullman Distinguished Service Medal of the New York Port Authority . . . *Robert J. Hull*, '23, an award for leadership in water pollution control, by the Ministry of Energy Resources, Province of Ontario;

*Julius A. Stratton*, '23, the Faraday Medal of the British Institution of Electrical Engineers . . . *Anatole R. Gruehr*, '24, the 1961 Honor Award of the Kings County Chapter, New York State Society of Professional Engineers . . . *Richard H. Pough*, '26, the Frances K. Hutchinson Medal for service in conservation, by the Garden Club of America . . . *Howard W. R. Biers*, '27, Honorary Vice-presidency of the Iron and Steel Institute, London . . . *Joseph D. Murphy*, '29, and *Eugene J. Mackey*, '39, the 1961 R. S. Reynolds Memorial Award for architecture;

*George Rosen*, '37, the United Aircraft Corporation's George Mead Medal for engineering achievement . . . *Colonel Thomas J. Hayes*, 3d, '39, the Air Force Commendation Medal . . . *Robert M. Lerner*, '59, the 1961 Award for the Best Tutorial Paper at the National Electronics Conference, Chicago.

### **Robert Haslam: 1888-1961**

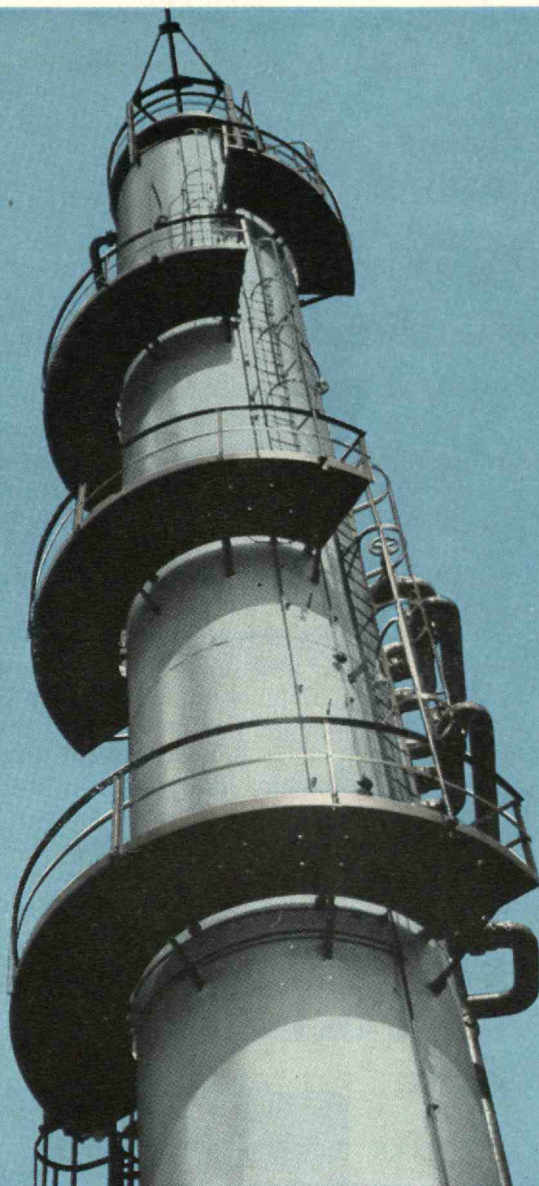
A LIFE MEMBER of the M.I.T. Corporation and former Professor of Chemical Engineering, Robert T. Haslam, '11, died on April 4. He was a former Vice-president of the Standard Oil Company (N.J.).

Born in North Adams, Mass., Mr. Haslam joined the National Carbon Company in Cleveland after graduating from the Institute, but returned to Cambridge in 1920. He was in charge of the School of Chemical Engineering Practice, directed the Research Laboratory of Applied Chemistry, and initiated a course in gas and fuel engineering at the Institute.

In 1927 he became the leader of a group pioneering in petroleum synthesis for Standard Oil Develop-

*(Continued on page 8)*

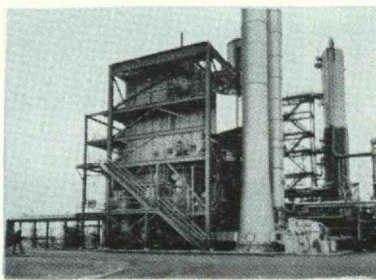
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refinery by-product



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C-313

## COMBUSTION ENGINEERING



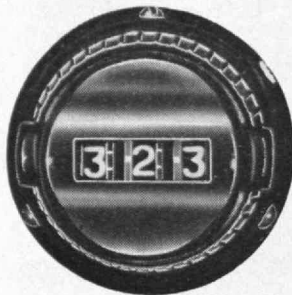
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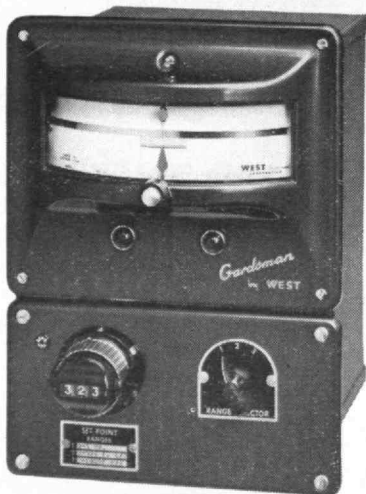
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### Individuals Noteworthy

(Continued from page 6)

ment Company and four years later became the company's vice-president and general manager. He joined the parent Standard Oil Company in 1935 and served it as general sales manager, vice-president for two years, and as a director. He was also a vice-president of Hydro Engineering & Chemical Company, director of the Plantation Pipe Company, president of the U.S. Pipe Line Company, and a director of the American Gas & Electric Company, W. R. Grace & Company, Dewey & Almy Chemical Company, the Ethyl Corporation, and the Worthington Corporation.

He frequently contributed to technical and trade publications and, with Robert P. Russell, '22, wrote *Fuels and Combustion*. Mr. Haslam was a chevalier in the French National Legion of Honor, and a member of the U.S. Army Science Advisory Panel, the American Institute of Chemical Engineers, the American Petrological Institute, and other professional organizations. He first joined the M.I.T. Corporation as an alumni member in 1949.

He is survived by his widow, Alice, and a son, Robert T. Haslam, Jr., '41.

(Concluded on page 78)

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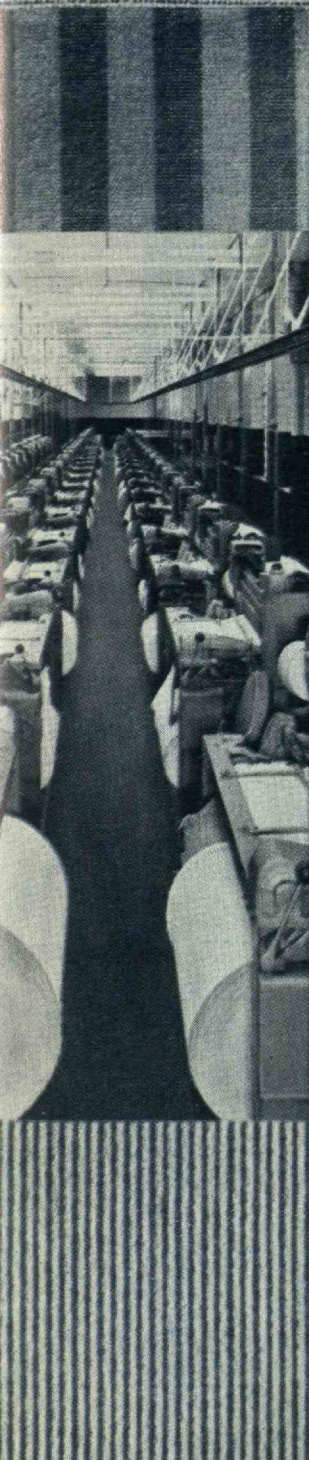
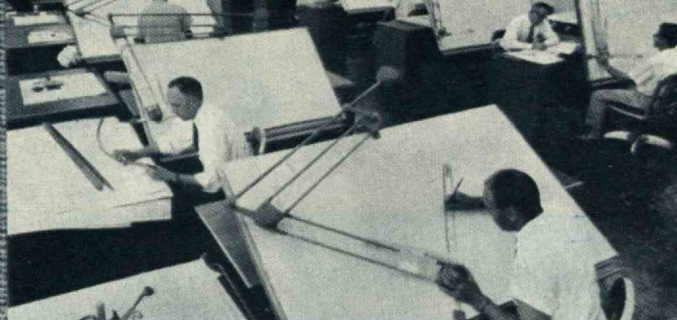
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F. F. DONOGHUE  
*Research Engineer*

HARRISON THIBAUT  
*Research Engineer*



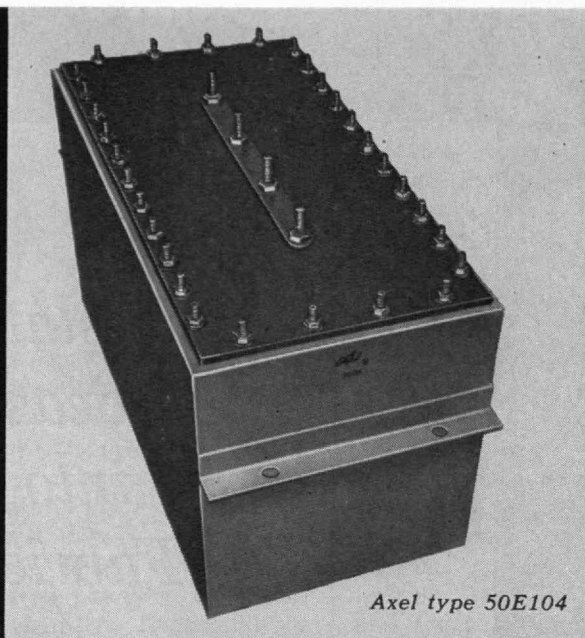
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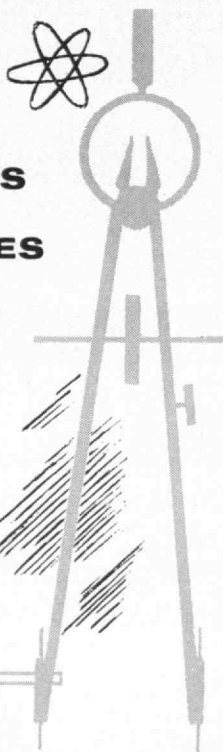
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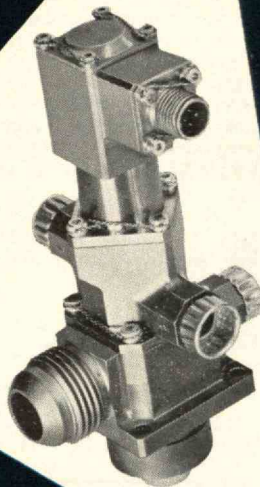
Baumrucker, William, Jr.	1929
Billwiller, Charles J.	1955
Burton, Thomas M.	1934
Colburn, Robert T.	1923
Dannenberg, Warren B.	1936
Dickson, Arthur D.	1917
Eckberg, Adrian E.	1922
Ford, F. Leslie	1924
Greve, Einar	1953
Hare, Van Court M.	1923
Hodgdon, Richard T.	1933
Holzman, Lewis H.	1958
Johnson, E. Stanley	1932
Kimball, John	1907
Logan, Richard W.	1917
Lynch, John B.	1947
Marsh, Donald B.	1922
Marshall, Stanley S.	1950
Mormino, Paul S.	1935
Nelson, Percy L.	1947
Parker, Franklin P.	1936
Patterson, Richard K.	1936
Puffer, Joseph M.	1937
Puffer, Winthrop M.	1927
Ropes, Lawrence G.	1920
Rowen, John H.	1948
Santangelo, J. Anthony	1927
Torrance, T. Curtiss	1938
Tourtellot, Irving W.	1937
Wolfinger, Walter H., Jr.	1960

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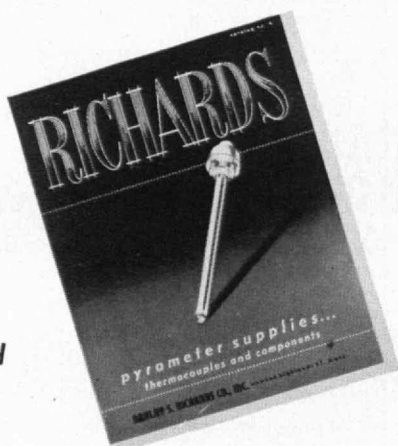
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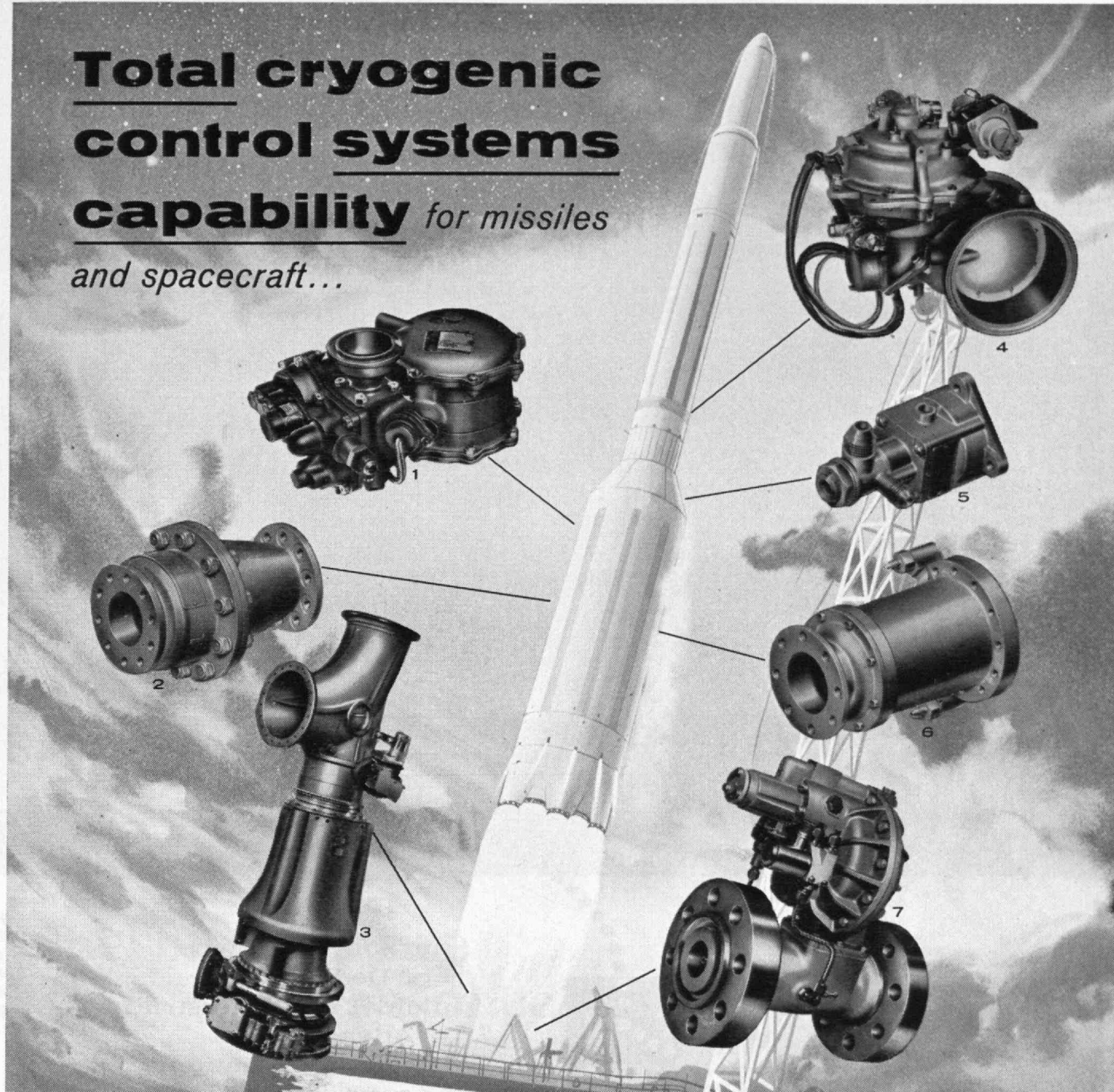
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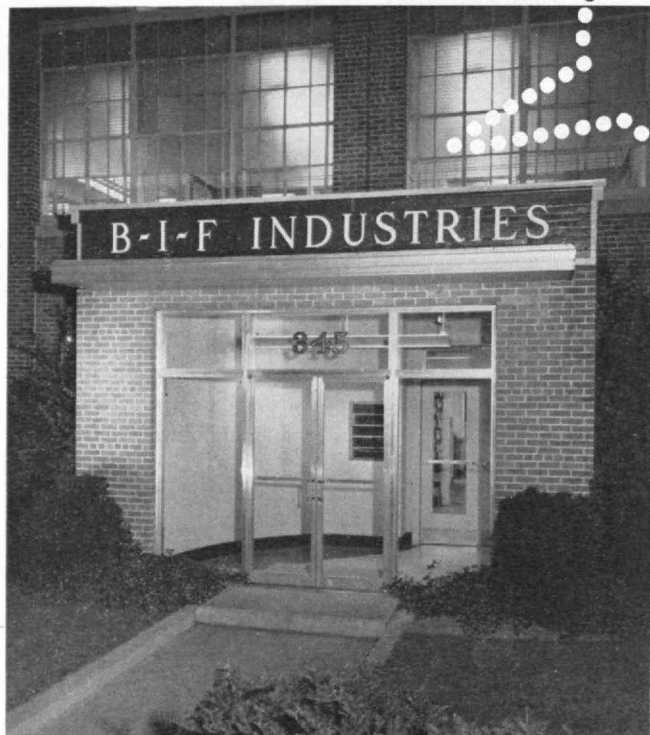
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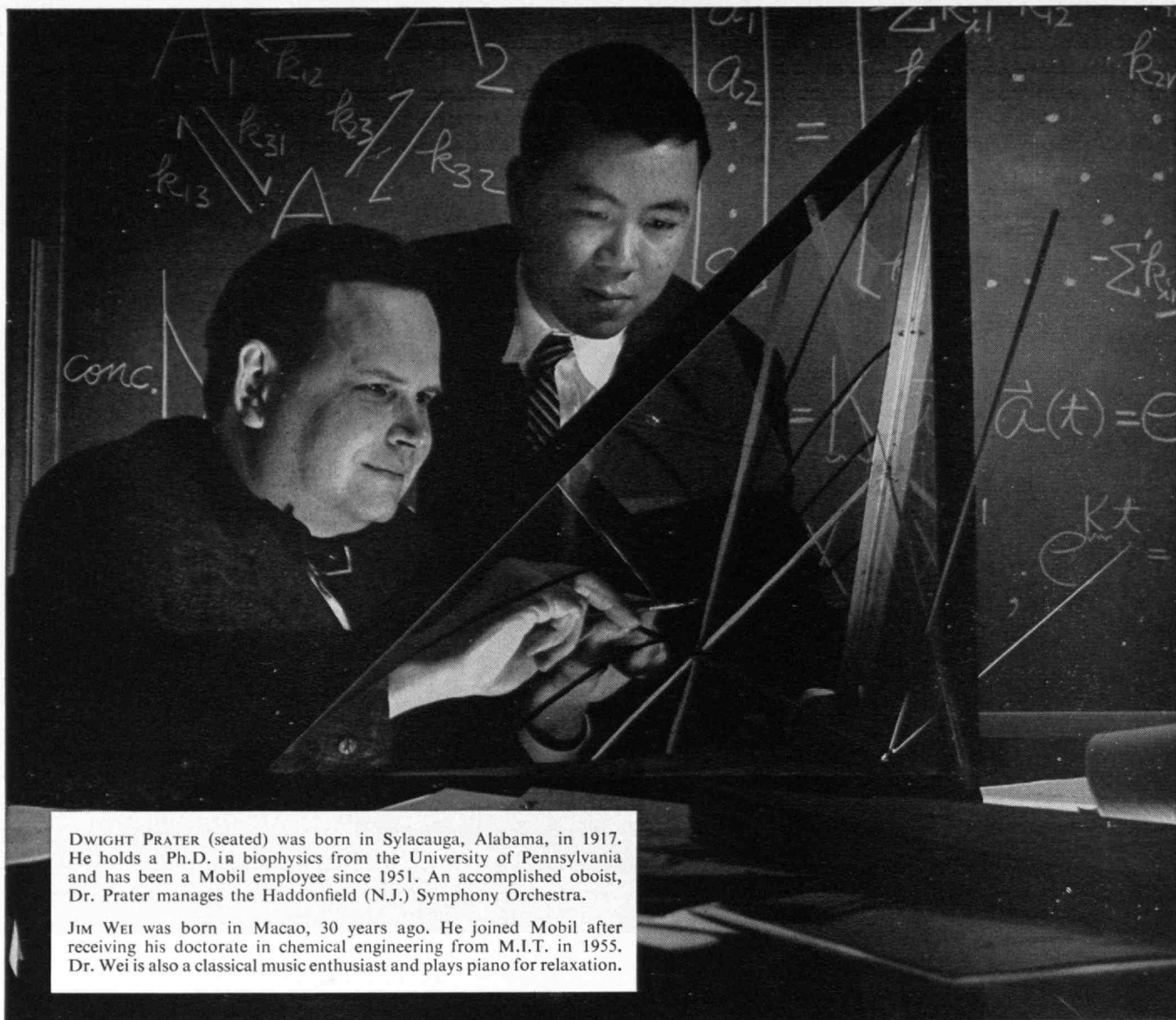
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DWIGHT PRATER (seated) was born in Sylacauga, Alabama, in 1917. He holds a Ph.D. in biophysics from the University of Pennsylvania and has been a Mobil employee since 1951. An accomplished oboist, Dr. Prater manages the Haddonfield (N.J.) Symphony Orchestra.

JIM WEI was born in Macao, 30 years ago. He joined Mobil after receiving his doctorate in chemical engineering from M.I.T. in 1955. Dr. Wei is also a classical music enthusiast and plays piano for relaxation.

## WHAT DOES A CHEMICAL REACTION LOOK LIKE?

A MATHEMATICAL MODEL of one is shown in this picture. The model represents a reaction that takes place in oil refineries every day.

Using an "off-beat" branch of mathematics, illustrated by this three-dimensional model, these Socony Mobil scientists have recently made an important breakthrough in the field of theoretical physics. They found a way to describe exactly what happens to petroleum molecules during refining. It formerly took hundreds of expensive laboratory experiments to get this information.

Their discovery allows Mobil to control chemical reactions with precision. As a result, we can now "freeze" refinery processes at exactly the proper stage to obtain maximum amounts of the products we want most. This means better products for Mobil customers.

*These scientists have probed deeply and successfully into the foundations of petroleum reactions. The full implications of their breakthrough extend far beyond the specific problems of petroleum refining. Their work has given scientists everywhere greater insight and understanding into a fundamental process of nature.*

Mobil encourages its scientists to give full play to their

research interests and abilities. Dwight Prater points out that "our discovery was in a field in which neither one of us specialized at college."

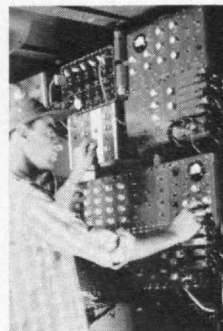
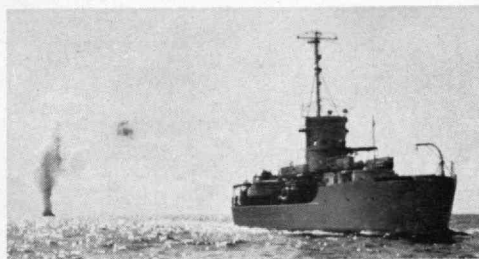
Mobil scientists also are free to explore ideas which may appear to have little immediate application to the company's operations. Jim Wei notes, however, that "many of these investigations pay off handsomely later on—for the company and for us."

Dr. Prater and Dr. Wei are two of the 1,500 men and women engaged in Mobil's \$25,000,000-a-year research program—in which imagination is turned into ideas, and ideas into better products and processes.

Like Jim Wei (above), class of '55, Mobil has dozens of M.I.T. graduates in positions of responsibility. We hope to have dozens more. From all of us at Mobil, best wishes to M.I.T. for its next hundred years.



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### TO THE OCEAN'S FLOOR ... AND BELOW

Daily aboard TI's sea-going seismic and acoustic investigation centers — the SONIC, TEXIN and SEA SEARCH — geoscientists are studying and mapping the structure of the earth below the ocean's floor. Illustrated above is the seismic reflection method, with explosive charges detonated near the SONIC for detailed study of energy travel through water and rock. Ship-board technicians also record refracted seismic energy, measuring signals through the ocean floor from charges exploded on land or in water as much as 35 miles away.

Similar land-based TI geophysical parties are now working in more than 22 countries of the world.



INNER-SPACE KNOWLEDGE FOR OUTER-SPACE TECHNOLOGY ADVANCED BY TI'S

## scientific key to Davy Jones' locker!

At a time when the focus is on outer space — a time when we know more about the moon's surface than we know about 70% of the earth's surface — geophysicists such as this sea-going scientist from Texas Instruments are furthering space-age technology with studies of inner space — the oceans.

He represents one of more than 60 global TI geophysical investigation parties who are applying 30 years' experience in earth sciences to measurement of earth's land and sea physical characteristics. Fundamental to modern defense, earth sciences have extended their traditional role in petroleum exploration to gathering information vital to programs in *underwater warfare, missile accuracy, seismic communications, detection/surveillance of nuclear tests, and design of underground defense structures.*

TI's talent for these "down-to-earth" studies dates back to 1930, when the company was formed as Geophysical Service Inc. — the first independent company to perform seismic reflection surveys for oil exploration. And from GSI's early need for sensitive electronic seismic equipment

came an engineering skill that was applied to Anti-Submarine Warfare systems in World War II, and resulted in TI's Apparatus division becoming a leading ASW equipment manufacturer today. This rare blending of earth sciences knowledge and experience with skills in systems and components gives TI a *unique capability in space-age technology.*

The founding company (GSI) is now the geophysical exploration arm of TI's Geosciences division, and these capabilities are extended to governmental agencies by the Geosciences department. Designing and manufacturing advanced instruments and systems in wide use by these parties and others is the Industrial Products Group, with such products as *WORDEN\** gravity meters, *EXPLORER\** seismograph systems and *seisMAC®* seismic computers.

For more about geosciences at TI, write to Merchandising department for Bulletin DM-101.

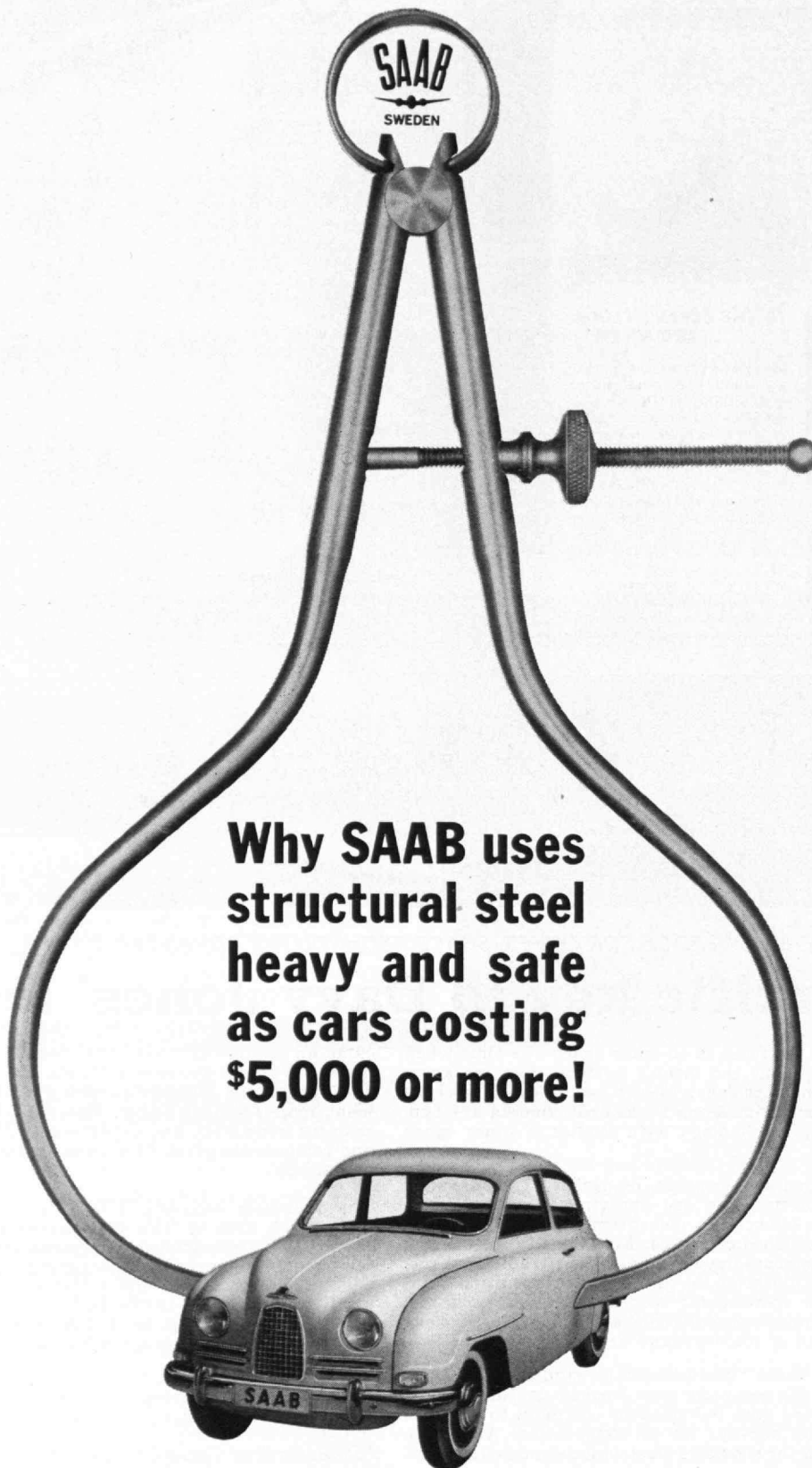
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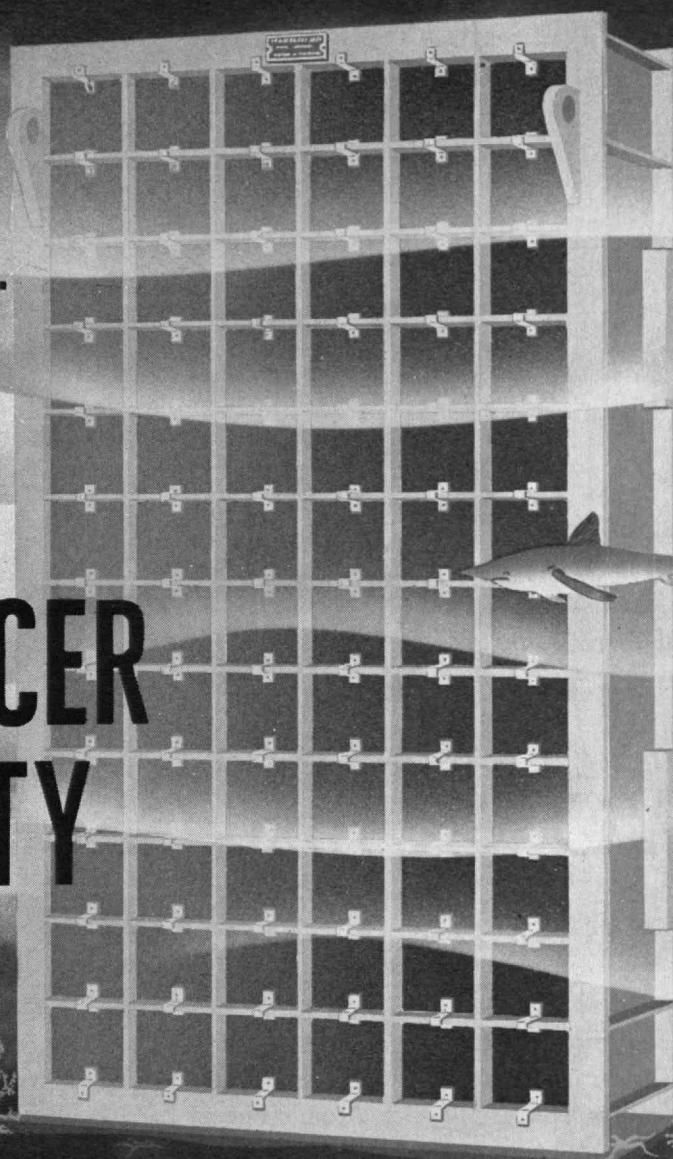


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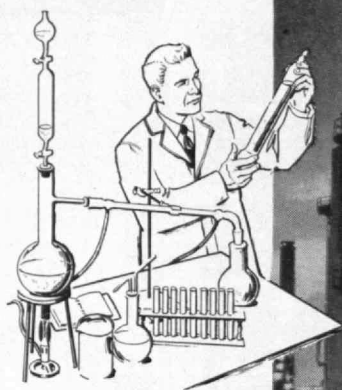
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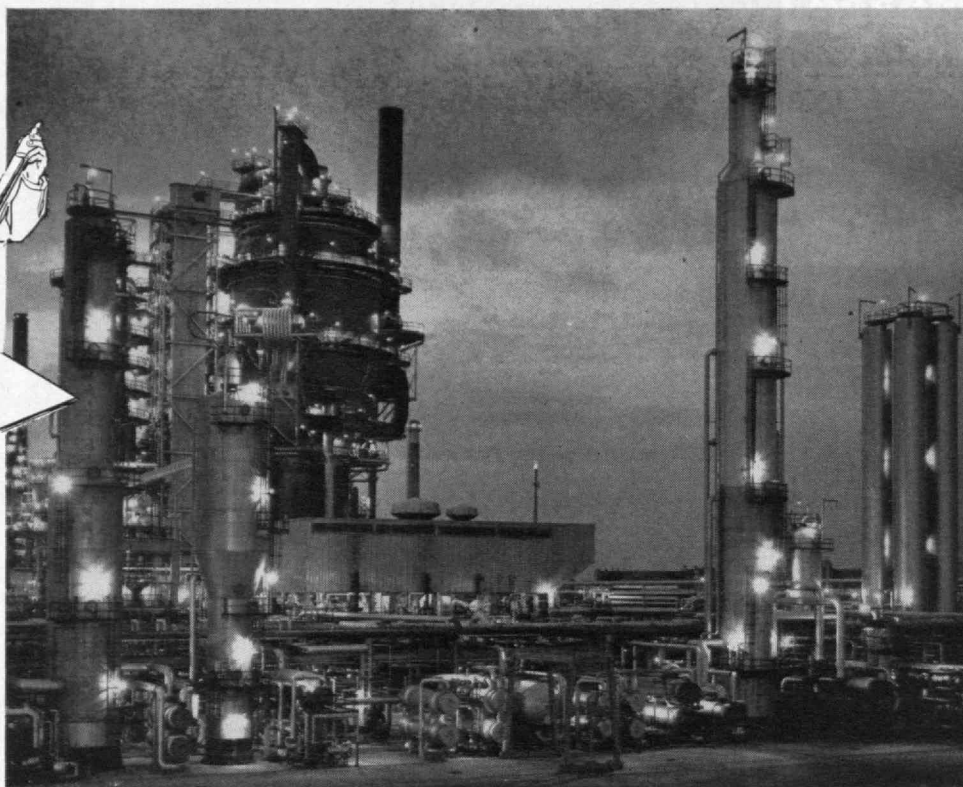
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EDWIN A. GOLDBERG	Associate Manager, Electromechanical Department, Systems Research and Planning Division, MS (1956) Electrical Engineering
DONALD H. LEWIS	Member Technical Staff, MS (1959) Aeronautical Engineering
FRANK C. LOESCH	Head of the Orbital Vehicle Department of a major military space program MS (1946) Aeronautical Engineering
DUNCAN MACPHERSON	Member Technical Staff, MS (1956) Mechanical Engineering
PETER R. SCHULTZ	Member Technical Staff, MS (1956) Electrical Engineering
AVRON N. SPECTOR	Member Technical Staff, MS (1956) Electrical Engineering
EDWARD R. TOPORECK	Special Staff Assistant to the General Manager, Engineering Division, MS (1931) Electrical Engineering
CHIAO J. WANG	Manager of the Propulsion Department, Systems Research and Planning Division, MS (1946) Mechanical Engineering

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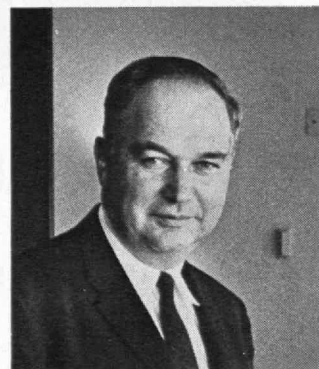
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President of Aerospace Corporation, a former professor of Electrical Engineering and alumnus of M.I.T.

Dr. Getting, as President of Aerospace Corporation, draws upon a distinguished career as research scientist and professor, as well as governmental and industrial administrator.

For the past nine years he has been Vice President, Engineering and Research, of the Raytheon Company. During the Korean war he served the United States Air Force as Assistant for Development Planning in the Air Staff, on leave of absence from M.I.T., where he was professor in the Electrical Engineering Department (1945-1950). He was director of the Division of Fire Control and Army Radar at the Radiation Laboratory, M.I.T. (1940-1945).

Dr. Getting holds his BS degree from Massachusetts Institute of Technology, where he was an Edison Scholar, and his PhD degree from Oxford University, where he was a Rhodes Scholar.

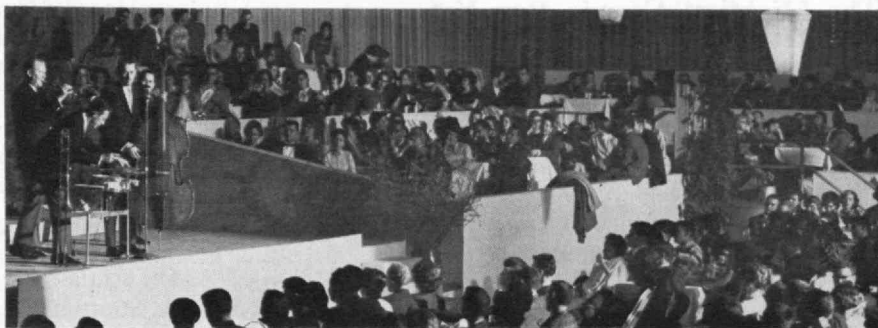


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# Trend Of Affairs



## The M.I.T. Telescope in Space

THE 39TH EARTH SATELLITE launched from the United States, Explorer XI, carried the second of two M.I.T. experiments in space into orbit on April 27. The first one had dealt with the solar wind. This one was a venture into gamma-ray astronomy.\*

Associate Professors George W. Clark, '52, and William L. Kraushaar designed and built the telescope aboard the satellite. A Juno II carried this slim, tube-like, 94-pound satellite into orbit. Both professors were at Cape Canaveral for the launching. Both of two radio transmitters in the satellite began functioning promptly, and the Laboratory for Nuclear Science was assured of fresh data to analyze.

The telescope and the apparatus linked with it were designed to measure gamma radiation from all directions while the vehicle tumbled end-over-end during many trips around the earth. Gamma radiation is believed to be indicative of collisions between cosmic rays and particles of matter in the far reaches of space. Since it is not affected by magnetic fields or other influences, measurements of it may provide clues to the sources of cosmic rays. The instrument employed is extremely complex. It consists in this case of two detectors so shielded and connected to a computer that the desired information is extracted from a multitude of events. This then is spurted to earth by the telemetering system.

The *New York Times* noted in an editorial April 30 that by "serving as a new 'window' through which to observe radiations" this telescope was opening "a new era in man's exploration of his universe." And *The Times* concluded: "From the purely scientific point of view, the opening of this window into the far reaches of space must be regarded as of by far greater importance than the spectacular placing of the first man in orbit for a short time."

Drs. Clark and Kraushaar worked with balloons before satellites became available. Dr. Clark has been in the Department of Physics since 1949, and Dr. Kraushaar has taught at M.I.T. since 1951 except for a year devoted to cosmic ray research in Osaka, Japan.

\*See "Two M.I.T. Experiments in Space," *Technology Review*, May, 1960, p. 24; and "Solar Wind Is Found," May, 1961, p. 14.

## Only Yesterday in Aviation

IN THIS YEAR'S Lester D. Gardner lecture at M.I.T., Lt. Gen. James H. Doolittle, '24, recalled the first blind take-off, flight, and landing in the history of aviation. It was on a foggy day in 1929 at Mitchel Field. There was a hood over Doolittle's cockpit; Ben Kelsey, '28, rode with him as safety pilot, and Harry Guggenheim was on hand to see that first 15-minute demonstration of the practicality of all-weather flying.

General Doolittle, who is now chairman of the board of Space Technology Laboratories and a Life Member of the M.I.T. Corporation, also told about crossing the continent, in 1922, in less than 24 hours for the first time. He described, too, what it was like to be lost on a flight from Buffalo to New York and crash land in New Jersey because of lack of blind-flying instruments and radio communication.

One of the most interesting periods of his life, he said, was when he worked with Professor William G. Brown, '16, and many others now well known—Julius A. Stratton, '23, helped with fog-penetration studies—at the Full Flight Laboratory which the Daniel Guggenheim Fund for the Promotion of Aviation supported in 1928 and 1929. It was there that the Sperry Artificial Horizon and the Sperry Directional Gyroscope, descendants of which are now on every airliner's instrument panel, were developed.

General Doolittle's blind flight in 1929 showed what was needed. Instrument landing experimentation and development continued, and Captain Albert F. Hegenberger, '17, made the first solo blind flight in 1932. Two years later a blind-landing procedure became standard military practice. By then, General Doolittle concluded: "Flying by instruments had outgrown the early experimental phase. It was a practical reality, and aviation had entered a new era."

This was the third annual lecture on aviation's history made possible by a bequest to M.I.T. from the late Major Lester D. Gardner, '98.

Faculty and student parties in the Rockwell Cage followed the formal observance of M.I.T.'s Centennial. The photo above was taken during a concert after the students' excursion to Sturbridge Village in a special train on April 22.



The Mightiest Cosmic Ray Yet

ON MARCH 19, the Volcano Ranch cosmic ray research station recorded an even greater shower of particles than ever was reported before. Last fall this same station reported the fall of 10 billion particles. This spring's shower was between two and four times as great as that "10-to-the-10th" event.

These showers of electrons and other small particles are "reconstructed" to estimate the energy of the cosmic rays that cause them. This spring's huge shower apparently resulted from the arrival near the station's edge of a particle with far more energy than ever has been imparted to anything with a man-made accelerator, and more than it seems likely that a particle could have acquired within our galaxy. Its energy exceeded  $10^{19}$  electron volts and perhaps approached  $10^{20}$ . The resulting shower appears, therefore, to have been produced by a nuclear visitor from beyond the region—100,000 light-years wide and 5,000 light-years deep—that the Milky Way occupies in space.

M.I.T. established the Volcano Ranch station near Albuquerque, N.M., three years ago. It has the world's largest array of detectors of such events. Each detector is a plastic disk resembling a millstone, in which there is a scintillation when a particle strikes it. Four such disks, covered with rice straw, are housed in each of a series of sheds spread over an area two and a quarter miles wide.

John Linsley, a bearded, western-looking young member of Professor Bruno Rossi's staff in the Laboratory for Nuclear Science, presides over this ranch and reported the record-smashing shower. Associated with him is Peter J. Eccles, another member of the Laboratory's staff, whose father is President of the Australian Academy of Science. Their work is supported by the National Science Foundation.

Will still bigger showers be recorded? Professor Rossi, who has been directing research which has resulted in the discovery of bigger and bigger showers, year after year, doubts if the limit has been reached. He has been

convinced for some time of the extragalactic acceleration mechanism for cosmic rays, and this shower appears to be further evidence of it. But whether the incident particles that start such showers are protons or ionized nuclei of heavier elements is still uncertain, and much more work appears to be necessary to determine the nature of the cosmic particles.

The Alumni Day Program

ON ALUMNI DAY at M.I.T., June 12, President Julius A. Stratton, '23, will report on the Institute's Centennial year and four members of the Faculty will participate in a symposium on "The University in World Affairs."

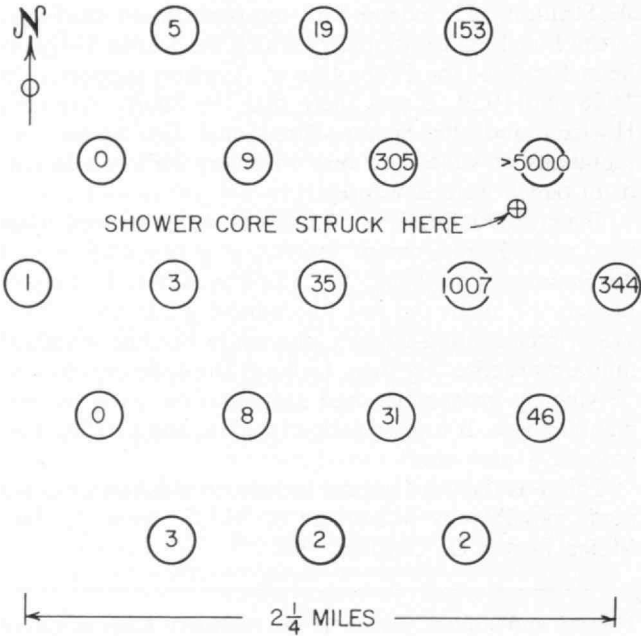
Dr. Stratton will speak at the luncheon in the Great Court following departmental reunions and motion pictures in the forenoon. The symposium will be in the Kresge Auditorium in the afternoon. The speakers then will be Walter G. Whitman, '17, Professor of Chemical Engineering on leave as Scientific Adviser to the Secretary of State; Jerome B. Wiesner, Professor of Electrical Engineering on leave as Scientific Adviser to the President; Max F. Millikan, Professor of Economics, and Carroll L. Wilson, '32, Visiting Professor of Industrial Management.

There will be a social hour in Briggs Field preceding the annual Alumni Dinner in the Rockwell Cage, and Arthur Fiedler will conduct the Boston Pops Orchestra in a concert that evening.

Housing for Married Students

A \$3,000,000 LOAN from the federal government's Community Facilities Administration will enable M.I.T. to proceed within the next year to construct housing for married students.

One quite high and four three-story apartment buildings are planned, to be located at the corner of Audrey and Vassar Streets on the West Campus, where the Westgate barracks formerly stood. They will be divided into efficiency, one-bedroom, and two-bedroom apartments. Hugh Stubbins and Associates are the architects.



The detectors are arrayed like this, and the group nearest the core of the shower was flooded with particles.



John Linsley of the Laboratory for Nuclear Science rides herd on the instruments spread across the western plain.

## Macromolecules and Memories

ONE of five fellows of the American Association for the Advancement of Science chosen to picture scientific frontiers for the American Society of Newspaper Editors at their April meeting in Washington was Institute Professor Francis O. Schmitt of M.I.T. He both reviewed some of the macromolecular biologists' achievements and explained some of their hopes.

Even memory and learning, he suggested, may come to be understood better by further study of the large biological molecules. None of the macromolecules now known appears to meet all the requirements for the phenomena within the brain. But it is possible, Dr. Schmitt believes, that macromolecules meeting the criteria will be found if the search is pressed.

It is estimated that 10 billion neurons are involved in the enormously complex circuits within the brain, and for each neuron there are about 10 cells of another type called "neuroglia" whose functions are poorly understood. Memory traces are widely distributed through the brain and persist even though all electrical activity is interrupted. The number of bits of information that may be stored greatly exceeds the number of neurons available, and if some type of switching mechanism helps to retain all of this information, the switches themselves must be endowed with memory properties. Hence, it seems likely to Professor Schmitt that memory traces are really subcellular and probably macromolecular in nature.

The memory engram, he said, may be similar to the nucleic acid RNA which is produced at a high rate in neurons. According to one theory, the RNA's detailed structure, however, must respond plastically to the electrical activity of the sensory nerves, and it must be capable of precise replication to make the widespread distribution and long retention of information possible.

To make the fast recall of temporally related sequences of information possible, the help of other molecular types may be needed, and there may be a mechanism in which certain molecules function as semiconductors. Quantum chemists and physicists as well as biologists are challenged by this problem.

"Man's deepest need is to understand himself, the nature of his being and endowments," Dr. Schmitt told the editors. "A frontal, full-scale attack on the biophysical and biochemical nature of the processes by which the functions of mind emerge from the interactions of the microcosmic macromolecular equipment in the infinitely complex neuronal and glial cellular systems of the brain would seem to be not only salutary but very timely in view of the complexities and dangers of current world events."

## The Library Problem

GILBERT W. KING, '33, Director of Research for the International Business Machines Corporation, has been chosen to head a survey of the possibilities of automating the organization, storage, and retrieval of information for the Library of Congress.

Librarian L. Quincy Mumford, in announcing the \$100,000 survey, said it will deal with whether there can be effective mechanization of such huge libraries in the foreseeable future and whether an automated system would be as good as present manual systems.



**COLUMNS OF M.I.T. NEWS** poured out of this press room in the basement of Kresge Auditorium regarding the Centennial celebration in April. It served as headquarters for both foreign and domestic, science and political reporters.

## Executive Development Symposium

PARTICIPANTS in an M.I.T. Centennial Symposium on Executive Development this spring included Harold F. Smiddy, '20, Vice-president of the General Electric Company, and Harold J. Leavitt, '49, Professor of Industrial Administration and Psychology at the Carnegie Institute of Technology.

The School of Industrial Management sponsored this three-day meeting at Endicott House of about 45 authorities on executive development, and Dean Howard W. Johnson and members of his Faculty led panel discussions of the papers presented.

Professor Leavitt's subject was "Unhuman Organizations" and he suggested that "the fact that machines can now think" will require a reconsideration of "our central concern with human fulfillment and creativity." Computer-controlled programs, he said, may require that industrial organizations become increasingly rigid in some areas, at the same time that they are very much loosened up in others.

Mr. Smiddy commented that although information technology may have the potential to force an entire organization, from the middle manager on down, into "a life of menial, stultifying routine and unrewarding work," it is questionable whether it should. "At least one sound, well-conceived concept—namely decentralization—provides an economically and socially competitive alternative," he said. "When a rapidly increasing part of the population has the education of today's college graduate, most people just will not accept as an unalterable condition that most of their life be spent in pursuits devoid of satisfaction."





**CENTENNIAL CONVOCATION** speakers (shown by a portrait of Karl Taylor Compton) were, left to right: Joseph Harrington, '3d, '61, John A. Volpe, James R.

Killian, Jr., '26, Clarence L. A. Wynd, '27, Mrs. Compton, Julius A. Stratton, '23, John C. Slater, John F. Baker, Joseph J. Snyder, '44 (Marshal), and Harlan H. Hatcher.

## The Invocation by Mrs. Compton at M.I.T.'s Centennial Convocation

**S**OME of the most memorable words spoken at the M.I.T. Centennial Convocation on April 9, in the opinion of many who were there, were those of Mrs. Karl Taylor Compton, who gave the invocation. Mrs. Compton said:

At this moment of climax in our celebration, we pause appropriately for an invocation—an outreaching of our minds and an upsurging of our hearts beyond the immediate occasion and these visible evidences of our rejoicing, to the infinite God of the universe, source of all wisdom, of all life, of all being.

We have come together here from many cultures, many faiths, yet surely in this presence we can unite in common acknowledgment that it is indeed “very meet, right and our bounden duty that we should at all times and in all places”—but especially at this time and in this place—“give thanks to almighty God,” by whatever name we may call him or in whatever form we may address our individual prayers.

We bow in reverence before the beauty and majesty of that universe whose myriad intricacies and vastness are being made known to us, bit by bit, by the work of so many minds. We acknowledge humbly our incalculable debt to all those who through the ages have

extended knowledge or have deepened our understanding of ageless values.

But especially this afternoon we give thanks for all those individuals who have poured their lives into the building of this great university. Many of their names are forgotten. Others rush quickly to all our minds. Yet each has added a little to the sum and from the assembled whole there *has* arisen a certain grandeur. With devotion they have pursued into realms far beyond his imagining the injunction of Pythagoras, given so many centuries ago but pertinent for centuries still to come: “Go! Seek to know of what and how the world is made, and **LEARN THEREFROM A BETTER WAY OF LIFE.**” Keeping faith with them we rededicate here all the resources of this great institution and ourselves, however small or great may be our part, to that imperative search at once compelling, rewarding, often baffling, but ever continuing and advancing.

And may God the father of all mankind, everywhere, in every nation and of every faith, unite us in that search and guide us on our way.

*After this invocation, the greetings (reported on page 36) were given and President Stratton acknowledged them (in the speech reported on the next page).*

# The Fabric of a Single Culture

BY JULIUS A. STRATTON, '23  
*The Institute's Eleventh President*

WE HAVE come to the closing hours of our first century and the culminating moment of this celebration. The Massachusetts Institute of Technology is young as measured by the age of many institutions whose delegates have generously assembled on this campus from all over the world to greet us. We are moved by your tributes and by the spirit they convey. I am deeply honored that as President it is my privilege to respond on behalf of the Corporation and the Faculty, the students and the alumni, and of the friends of M.I.T. who are gathered here today. I do so most warmly.

This, of all times, is an occasion to look ahead, and it is about matters that lie directly before us that I shall speak to you this afternoon. Yet for one brief moment, let us cast back our thoughts over the hundred years.

Outwardly and materially, the world of 1861 appears at a backward glance but a crude prototype of our own. Nothing is more obvious than the changes that have been wrought by the stupendous discoveries and countless inventions of the intervening century. Yet, the same great currents of thought that we commonly identify with our own time had already begun to stir. The same conflicts of ideas were clearly visible.

Among educated people everywhere, and in the city of Boston in particular, there was an intense interest in science and invention. The idea of progress had, if anything, a greater hold upon the nineteenth century than upon our own. There was a confidence that science was the ultimate key to the welfare of mankind and a profound belief that in only a matter of time, science would reveal to us all the mysteries of our universe, would satisfy the material wants of peoples everywhere, and would bring peace and harmony among men.

Out of these convictions, there emerged a vision of the future that stirred the imagination and moved men to attach a new importance to useful knowledge. But there were then as now many who refused to accept this pragmatic view of life. Cardinal Newman in Great Britain, in a celebrated essay, defined the classic idea of a university, maintaining that its true purpose was instruction rather than research—to train the mind rather than to diffuse useful knowledge. Matthew Arnold eloquently

*Science, in sum, gives us knowledge and power of action. It tells us what we can do; we must turn elsewhere to learn what we ought to do*

defended the humane letters as the single path to culture. Against this ancient fortress of classical learning, Herbert Spencer and Thomas Huxley pressed their case for science and for relevancy in education to the problems of the day. A full century ago, the lines of battle between the "two cultures" were already clearly drawn, and the echoes of these great controversies were heard here in Boston.

Jacob Bigelow, a President of the American Academy of Arts and Sciences and a Rumford Professor at Harvard, concluded a memorable address in the 1860's with these words: "A few years ago, men witnessing the effect of an electric current on a magnetic needle wondered if a motive force could not be transmitted with electric speed to a far distance. A few years ago, men looking at their faces in a glass wondered if such an image could not be fixed on a plane surface, by the agency of light. A few years ago, men toiling slowly and wearily on highway roads wondered if the fatigue and loss of time could not be saved by some better mode of conveyance. A few years ago, men about to undergo surgical operations wished in vain that the attendant pain might in some way be averted. The solution of all these problems is now achieved by the triumphs of utilitarian science. The nineteenth century, one-third of which is yet to come, has already converted all these wants and wonders into physical and historical facts. Would the recovery of the lost books of Livy, the orations of Hortensius, or the poems of Sappho, be any compensation for the loss of any one of these from among our own coterminous revelations?"

The response of the "other culture" to such declarations was immediate and forthright. The pages of *The Atlantic Monthly* in the 1850's and '60's and the minutes of the several literary clubs of this city record spirited and sometimes acrid discussions of the relative merits of classical and utilitarian studies. They record also the successful efforts of William Barton Rogers to found here a new kind of institution.

M.I.T. is the product of that generation and of a plan founded on faith in the dignity and worth of useful knowledge. Indeed, the history of this Institute over a



hundred years is interwoven with the economic and industrial development of the United States. Its progress stems from the need to apply the power and skill of engineering to the growth of a nation.

We of this generation of students, faculty, and alumni of M.I.T. can take rightful pride in the accomplishments of our first century. Yet as we look now to the future, we find ourselves caught up in a great forward surge of science that has no parallel in the past. Hardly a month passes without the announcement of a significant advance on one frontier or another. One would be foolhardy to predict the discoveries and inventions that lie ahead. But there is on every hand a pregnant sense of extraordinary things to come, a belief that man is on the threshold of many revelations, of profound new insights into the nature of life and the construction of the universe.

In our own century science has given to man an unprecedented power over his physical environment. But how shall he govern this headlong advance? How shall he be guided on his course? What shall he ask of science? What shall he do with its products? How shall we as educators teach the generations of scientists and engineers who are to follow?

From these most difficult and urgent questions, I draw three thoughts that I should like to express to you today.



First, I want to speak of the advancement of science for its own sake. Science is the great quest for knowledge and understanding of the laws of Nature. Science is a structure that man is erecting piece by piece in the likeness of God's world. The great edifice is rapidly taking form. The beauty of the whole and of its parts is becoming ever more visible. The work commands the interest and consumes the energies of an increasing number of men and women.

Yet, while the quest for knowledge reveals the beauty and harmony of Nature, it can lead also into doubt and into places of darkness and fearful domains.

Just one hundred years ago, the theories of Darwin and Huxley relating to the origin and evolution of species were looked upon by many as an assault upon the foundations of religion. Today, biologist, geneticist, and chemist are pursuing a search that is taking them ever closer to the elements of life itself and may well disclose a complete evolutionary chain that leads from a primordial, inorganic mass into an organic, life-sustaining planet.

The physiologist and the psychologist are making rapid progress with their investigations of the structure and functions of the human mind and personality. As they proceed, there looms before us the terrifying possibility of the evil to which such knowledge may be turned—the power to control and subvert both mind and spirit.

To many people today, the idea of a thinking machine, of an electronic device that can simulate at enormous speed the logical processes of thought, is not merely awesome but abhorrent.

And I need hardly remind you of the appalling consequences that may flow from a misuse of our knowledge of nuclear fission and fusion.

One may multiply the examples at will. The prospects of potential evil or disaster are so many and so

frightening that thoughtful people question how far we dare proceed. They ask whether science has not begun to trespass upon forbidden territory, whether there are not paths of investigation that henceforth must be barred to man's curiosity.

To this I reply that there is no retreat. We have no alternative but to follow truth wherever it may lead us. One cannot escape evil by ignorance. Whatever preconceived notions we may have of how the world is constructed must and will give way little by little to a more profound understanding of the laws of Nature as they actually are. Knowledge itself, as has been said many times, is neither intrinsically good nor evil; but the power that knowledge gives can be turned to evil purpose. Only our will for right against wrong stands between us and disaster. We must seek salvation not by withdrawal from the quest, but in man's own conscience, in his innate sense of decency and morality.



I have been speaking of science as a path to understanding. I want now for a moment to talk of science as an instrument for human welfare.

The entire development of man, from his most primitive origins into a modern, civilized being, is the story of an unfolding interplay between tools and a directing mind and will. There is a common idea that, in the long, painful, tortuous evolution of human society, the enlarging brain and the progress of intelligence are always in advance of the inventions of technology. On this point the record is by no means clear. In fact, recent archaeological discoveries in Africa appear to link stone tools with prehuman primates more than half a million years ago. Such evidence suggests how behavior through the use of tools may have interacted with changes in anatomical structure, as well as in intellectual development, and how out of these interactions emerged man as we know him.

All our recorded history offers further evidence of this interaction between ideas and technology, between thinking and doing. The great cultural transformation that began to overspread Western Europe in the fourteenth century was the product of many factors; but any interpretation will be distorted and incomplete that fails to take account of advances in the use of wind and water power, or improvements in such simple devices as pumps for exhausting water from flooded mines. The theories of Galileo, Newton, and Huygens are among the grandest works of the human intellect. But the indispensable prelude to these theories was the invention of physical instruments—of telescopes, microscopes, and the air pump. In our own day, the profound new insights into the nature of matter and the constitution of the stellar universe, with all their philosophical implications, are direct consequences of great new machines, of particle accelerators, and radio telescopes; and these, in turn, have been made possible wholly by progress in engineering.

In sum, technology—or be it engineering—has contributed to man that small and sufficient advantage over the competitively hostile forces of nature that has enabled him thus far to survive and flourish. It has afford-

ed him a measure of security, a slowly improving economy, and—most precious of all—moments of leisure, without which there can be little thought or reflection.

Modern engineering draws increasingly upon the methods and ideas of modern science and in turn contributes increasingly to scientific progress. Engineering is a partner with science, and not a stepchild. Many of us have been aware and troubled by a curious mood too prevalent in some intellectual circles that arrogates an inferior grade to the part played in society by the engineer. I feel obligated on this occasion to reaffirm the importance of his role.

The institution that you honor today was founded upon the idea that there is both worth and dignity in useful knowledge. The motto "*Mens et Manus*"—the mind and the hand—is inscribed upon our seal. Nothing that one can foresee for the future diminishes the importance of a steadily advancing technology. I speak now not only in tribute to the engineer, but on behalf of all those men and women whose efforts are dedicated to the translation of knowledge and ideas into products and services contributing to the health, nourishment, social stability, and economic security of mankind. I include in their number the doctor, the teacher, the architect, the manager of industrial enterprise. All such professions have this in common—that they combine art with science. In a limited sense, art is defined as the knowledge gained by skill, experience, and practice; but it is also, and in larger part, an intuitive feeling for the special meaning of the materials worked with and for the particular order that will best express this meaning. One might, then, say that engineering is art governed by reason, or equally that it is reason organized by art. It is precisely this fusion of science with art that gives to engineering its special character and appeal. The engineer himself must take the highest view of his profession. The greatest opportunities and the most difficult problems lie directly before him—problems that challenge his originality, his intuition, his knowledge of the methods and data of science, his capacity to reduce ideas to practice, and, increasingly, his ability to manage the systems he has created.

The physical character of our cities and the quality of their design; the effectiveness of our future modes of transportation; the conservation of our natural resources; the synthesis and application of new materials; the creation of new industries; and the aid which we extend to other lands abroad—all these will be in large measure the work of engineers. These are vast responsibilities, calling for men of stature, and holding forth the possibility of great rewards in pride of achievement. They are worthy of the efforts of the most gifted young men and women of this oncoming generation.



I have spoken of science as the unremitting search for understanding and of engineering as its working partner. But men must be moved by more than an aimless urge to investigate and to fabricate. We have in our hands even now an almost limitless capacity to alter at will the material conditions of our existence. One can hardly conceive a technological goal that will not yield to the engineer, if men will but put their minds and wills to the task.

Yet in this almost infinite array of possible projects, where shall we concentrate our efforts? It is all very well to assert that the applied sciences—medicine, engineering and the rest—are directed towards useful purposes and the welfare of mankind. But such declarations are meaningless apart from a larger framework of judgment. Who shall say in the longer view what is useful and what is not? By what criteria and by what plan shall we make these great and often fearful decisions?

The simplest of the considerations involved is merely that of economy of effort. The limitations upon the human resources of a country, even of one so wealthy as the United States, are such that we cannot undertake all things at one time. And to this dilemma of priority, the advance of science now adds moral and ethical questions of a totally new order.

One may, to take an elementary example, spray the fields and the forests with insecticide. The mosquitoes die, as was intended. But so also, perhaps, do the birds and the insects, until over a vast area the delicate balance between fauna and flora is disastrously unsettled.

The advance of medicine enables the doctor today to conserve and to prolong life but without assurance that this life will be meaningful.

By the use of chemicals and radiation the biologist can induce mutations in genes and chromosomes, and so by an appropriate handling of genetic materials create new strains of living organisms. The same genetic laws govern the evolution of human beings. Conceivably someone may have the arrogance ultimately to undertake the breeding of a strain of "good men." But who then shall determine the new model of the "good" man?

In a quite different domain, as yesterday's Panel on Arms Control warned, the consequences of a nuclear disaster might affect life on this planet for generations to come. It is just this inescapable fact that gives to the international problem of arms control a seriousness and an urgency without precedent in human history.

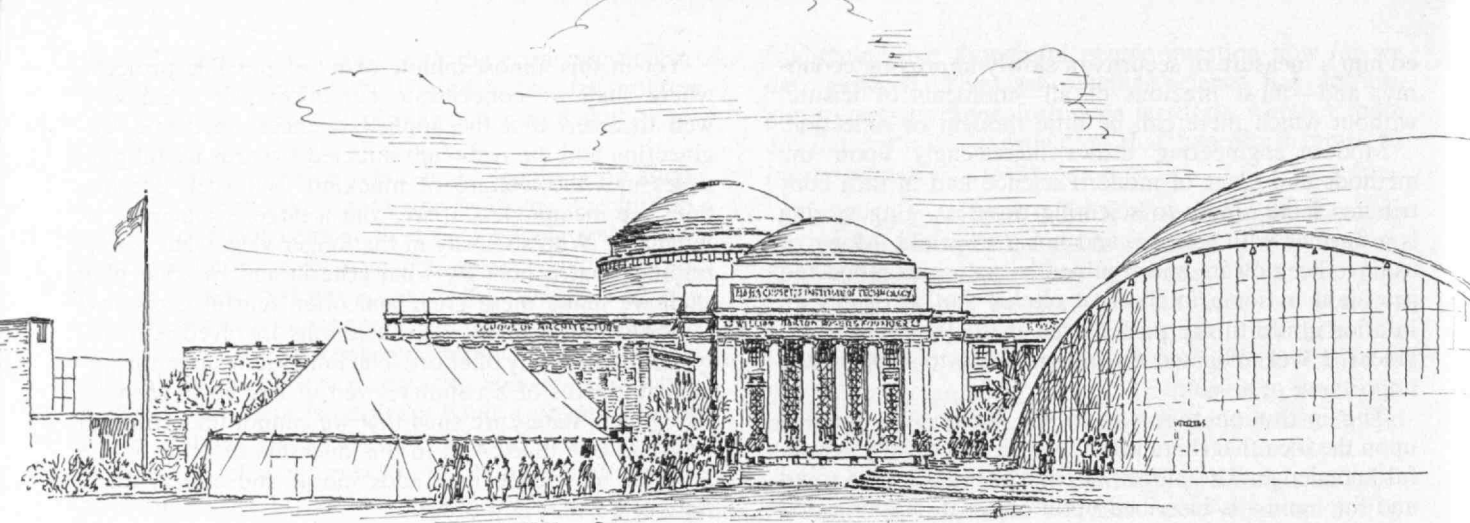
There is nothing in the new order of science that relieves any one of us of our personal, individual, moral, and ethical responsibilities. But science now presents to us not alone as individuals, but as societies and nations, moral challenges of a wholly new order of magnitude. The nature of these challenges must first be understood and then acted upon with all our energies.

Science, in sum, gives us knowledge and power of action. It tells us what we *can* do; we must turn elsewhere to learn what we *ought* to do. There is no certitude in man's affairs, and we learn by trial and error; but the errors are becoming increasingly expensive. For guidance we must turn to the accumulated record of all human experience, to the ethical teachings of our religious faiths, to the understanding revealed by systematic study of human behavior. These are the strands that through education must be interwoven with science and technology to form the fabric of a single culture, and the hope of a harmonious and peaceful world.



And so tomorrow M.I.T. sets forth upon its second century dedicated to truth through science, proud of its concern for useful knowledge, and alive to a new order of ethical and social responsibilities.





M.I.T. as sketched by Percy Lund on its Centennial

## Some of the Centennial Greetings to M.I.T.

*THE SPOKESMAN for Alumni at the Institute's Centennial Convocation on April 9 was their Association's President, Clarence L. A. Wynd, '27. Said Mr. Wynd:*

In thinking about the relationship of its Alumni to the Massachusetts Institute of Technology, it occurred to me that I have seldom, if ever, heard the term "alma mater" used. Now while paternalism is a nasty word nowadays, I have never heard anyone speak in derogatory terms of mother. Of course, motherhood carries with it the aura of soft and loving care and feeding of the young.

The acquiring of an education at M.I.T. has been variously described by its students. The classic phrases, which they use, surely do not carry the connotations of kind and loving care.

Moreover, after mother has given her children this start in life, it becomes their turn to reciprocate as she enters the period of lavender and old lace and the rocking chair, but, at the age of 100, the Institute has certainly not taken on the patina of age. It seems rather to have discovered the fountain of youth which the early American explorers sought. These explorers, of course, were seeking eternal corporal youth which we know to be impossible of attainment, but eternal corporate youth can be achieved, and the Institute is ever renewing its aura of exciting and invigorating youth. So, I believe that the most appropriate greeting which I should bring from its Alumni to the Massa-

chusetts Institute of Technology is not a filial one but rather a brotherly one. Nice going old chap—we are all with you. We shall forever be participating in *your* eternal youth by every support which we can give you—not alone because we feel a devotion and an obligation—but because this association does something to extend *our* youth also.

*The students' spokesman was Joseph Harrington, 3d, '61. He quoted William Barton Rogers' "Plan for a Polytechnic School in Boston," and concluded:*

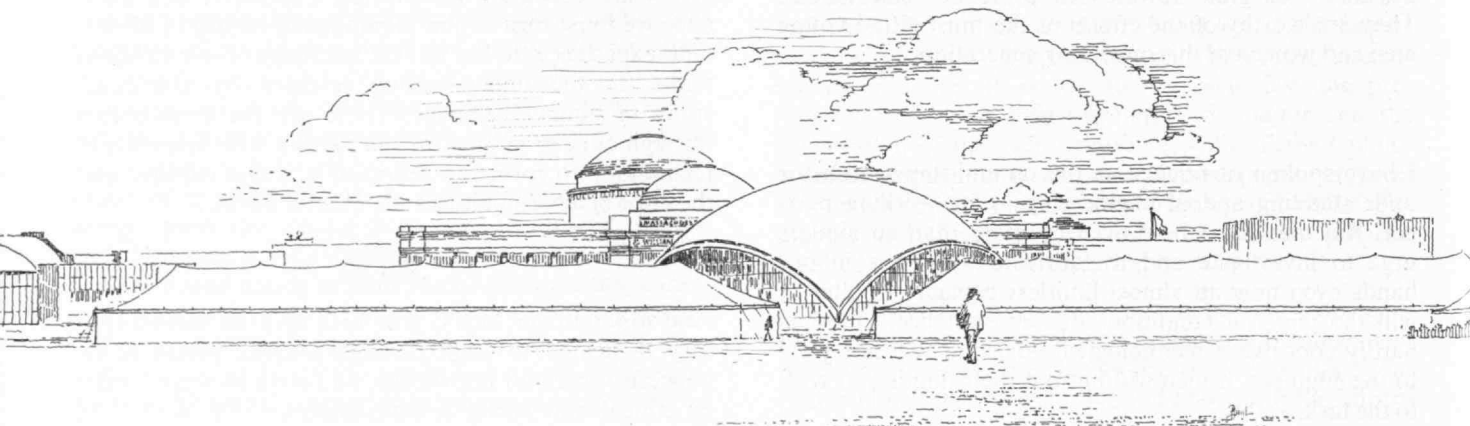
Although our school is not yet a university "comprehending the whole field of physical science and the arts," it is closer now to that goal than ever before.

It is to this ideal that we, the students of the Massachusetts Institute of Technology, tender our greeting and our salute today. We are saluting, not individual men, but an institution; already strong, destined to grow greater. We hope that in our time at the Institute, we can help it to move even closer to President Rogers' dream. If it does, we can be proud to join the procession of those who call themselves "M.I.T. men."

*The Faculty, said its spokesman, Institute Professor John C. Slater, comes as near to being a pure and enlightened democracy as anything he knows, and he went on to point out:*

An institution is a creation jointly of people and of ideas. This Institute is a straightforward product first of

(Continued on page 80)



# The Free World's Problems

*A call for wider unity of method, purpose, and organization to strengthen the Western Alliance*

BY THE RT. HON. HAROLD MACMILLAN

KING WILLIAM IV once received a deputation with these words: "If my love for you equalled my ignorance of everything concerning you, it would be unbounded." I'm afraid your international reputation is too wide for me to be able to advance a similar claim.

Indeed, the Centenary of the Massachusetts Institute of Technology is an awe-inspiring event. You were founded to teach "the fundamental principles of positive science, with their leading applications to the industrial arts."

At that time no one could have foreseen the pre-eminent position which the Institute was destined to hold, not only in America but throughout the world. Both your method and your timing were right.

In these years the application of scientific techniques to the methods of production, distribution, transport, and the communication of ideas has set the whole human race on the march. This process will go on until it has revolutionized the whole conduct of human life upon this planet and perhaps beyond.

You follow the scientific method—by the ruthless logic of experiment. For you—as Thomas Huxley once said—the only tragedy is a hypothesis killed by a fact.

We politicians must seem to your trained and professional minds hopelessly amateur. Sometimes, we may have a success—more by good luck than by good management. Thus, occasionally, by pure chance, we may swing for the bleachers and collect a homer. Yet, for all your natural impatience with our shortcomings, you must feel a deep desire for your efforts to be matched by some comparable developments in social organization and political thought. This is the link between your work and that of those who hold high political office. I therefore make no apology for talking to you on a political theme. For if your achievements are not matched by the thoughts and deeds of political leaders, your work will be in vain—it will seep away into the sand.

If the world is to progress, the unity which science helps to promote must in due course be matched by harmony in international relations. Meanwhile we must face facts as they are. We must first achieve some real unity of political purpose and method in the Western Alliance.

Let us start with our two countries. Three years ago after a visit to Washington I spoke at Johns Hopkins University. I will only quote one phrase: "Whether we like it or not—and I do like it—the destinies of the English-speaking world are inextricably intertwined." At that time I was speaking in the presence of your President—my old friend and comrade, President Eisenhower—whose life for 20 years was devoted to the joint purposes of your country and mine. Before coming to Johns Hopkins I had spoken also at DePauw University in my mother's state of Indiana. There I declared my belief that if the progress of humanity was to continue this word "interdependence" must be the keynote of the second half of the Twentieth Century.

I want tonight to consider with you what this belief means and how we can translate it into effective action. No easy task, for it calls for something even more rare than intelligence—decision and resolution.

Now I have come to the United States to meet and take counsel with a new President at the beginning of his term of office. In his inaugural address the President said: "My fellow citizens of the world, ask not what America will do for you but what together we can do for the freedom of men." This notable phrase certainly matched the level of events. It has set the pattern for our talks together.

In the same spirit let us look, realistically and objectively, at the state of the Free World today. How have we been getting on since 1958? To be frank, we have been doing fairly well but not well enough. The vital center of the Free World's resistance, our Western Alliance, is no better organized, whether in the field of defense, economics, or political relations. If we have broadly held our own we have gained no ground.

When I speak of the Free World I mean the whole non-Communist world. There are, of course, many groupings of nations outside the Sino-Soviet bloc. Some of these are economic, some political, some cultural, and some defensive. But the core of the Free World is our Western Alliance, primarily the Atlantic Community. On its strength and vitality all depends. For if we can organize ourselves in imaginative partnership at the center, the effects of our unity will spread out through the world. Three years ago President Eisen-



hower and I declared for interdependence. Today I say interdependence is not enough. We need unity—a wider unity, transcending traditional barriers; unity of purpose, of method, and of organization.



Our Alliance will only be united if it is secure against aggression. Otherwise it can have no life or strength. There are two roads to security. The best, the cheapest, the most sensible and the only one by which political man could match the successes of scientific man, is disarmament—comprehensive and effective: the only sure guarantee of peace.

I do not speak here of some mere paper treaty not commanding real confidence. I mean genuine disarmament, secured by effective controls—not a sham but a reality. Some day we may reach this goal which, up to now, like a mirage in the desert, always seems to recede the nearer we approach it. Certainly we shall persevere, for the prize is supreme. It is the banishment of fear. Even if we did not want disarmament on moral grounds, we certainly need it for economic reasons.

The cost of defense is a specially heavy burden for Britain and America—whether we think of it in terms of men, money, or resources. It weighs upon both our economies partly by our huge internal expenditures and partly by the direct cost in foreign exchange. All this puts a serious strain on our balance of payments. We in Britain spend overseas on defense about \$620 millions a year. Of this \$210 millions goes across the Exchanges in NATO. The rest we use in the cause of peace throughout the world. The United States are faced with the same problem at home and abroad. Meanwhile—until disarmament comes—the Free World must be secure and united.

Of course in this age of missiles, we must not overlook our conventional forces. Our task is to keep them mobile, hard-hitting, and up to date. Our military alliances all round the world are not aggressive or offensive. Their purpose is to see that little wars and adventures do not turn into great disasters. We must maintain these Alliances. They are permanent facts of modern life. But since unity is as important as security we must try to share the burden more efficiently. Surely it is illogical that our teams of military planners, scientists, and technicians should waste any of their efforts duplicating work and projects. Of course co-operation is not easy. Everyone is in favor in principle. In practice, they find it rather a nuisance. All the vested interests work the other way.

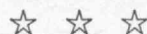
Nevertheless, this is a technical and not a political problem, which it should be in our power to solve. Standing behind these conventional forces is the great weight of the Western nuclear deterrent power. This guarantees our security. But here the implications of unity are more obscure and controversial. The first essential is that the deterrent should deter; this is self-evident and overriding.

Secondly, an effective deterrent should not be wasteful. Of course in recent years the relative advantage of the West has greatly diminished. We cannot afford to be too weak either in weapons or in means of delivery. All the same it is almost as important not to try to be too strong. The calculation is not an easy one to

make. For as the armament of democracy will never be used aggressively, it may need to be larger than that of a potential aggressor. The very size of the area which we have to protect dictates some dispersal and perhaps some duplication. Yet we cannot afford waste.

Moreover, we must take care lest by building up our own security we perpetuate and encourage a nuclear arms race. That is one reason why I so earnestly hope for a successful outcome of the present negotiations in Geneva. The United States and Britain will do all we can to make this agreement with Russia to end nuclear tests.

But a test ban will not in itself give us nuclear disarmament. Meanwhile, the balance of priorities must be carefully weighed. The nuclear deterrent must take account of our necessarily defensive strategy. It must be effective, but not wasteful.



If then our Western deterrent is both credible and efficient, what more do we need? I believe that there is a third element; although the nuclear deterrent gives us security, it is not yet so organized as to contribute fully to our unity.

All of us here know that America and Britain, who at present control the Western deterrent, regard themselves as trustees for the Free World. I think sometimes we are a little smug about this. It is rather like the trustees of a private fortune, of whom the beneficiary once said: "They may be my trustees, but I am not sure that they trust me."

Why was it that after the war Britain, under Labour as well as Conservative Governments, spent so many millions of pounds on a nuclear capacity? I will tell you. Although we in Britain have been accustomed for centuries to fighting our battles as part of an alliance, we have always been ready in the last resort to fight alone. There have been times when the world has not regretted our courage, even if they have judged it desperate.

Sometimes people doubted our determination. It was so in 1914 and again in 1939. Even today some people talk about "creeping neutralism" in Britain. Yet do not misunderstand our national character. Look at the record and draw the moral. So our determination to make our own nuclear contribution was in a sense instinctive. And perhaps, with the Atlantic Ocean between us, it has been no bad thing for the people of Europe to see that at least one European member of NATO shares the nuclear power with you. Besides, because of our geographical position and the advantages of increased dispersal, our British nuclear force contributes far more to the total Western deterrent than its size alone would imply. At any rate, all this is a matter of history.

Now let us turn to the position of our allies. When Sir Winston Churchill made his famous speech at Westminster College, Fulton, in 1946, he coined a memorable phrase: "The awful ruin of Europe with all its vanished glories glares into our eyes." How different is the scene today? Thanks largely to American help, poured out through the Marshall Plan and in other ways, the economy of Western Europe is buoyant—even booming. Above all, the spirit of her peoples is alive again.



**"Technical developments overlap narrow national frontiers. . . . We all still think too cautiously, too parochially."**

It is natural, then, that there should now be some in Europe who feel unhappy that their nuclear defense should be left purely in Anglo-American hands. There are some who think that you and we might unleash the deterrent rashly; there are others who fear just the opposite—that we might be too vacillating to use it at all until it was too late. Some fear our fingers on the trigger—others fear our thumb on the safety catch. So there is a certain unease in the NATO alliance.

What are we to do about it? We do not want, naturally, to alarm and perhaps endanger the world by appearing gratuitously to encourage the uncontrolled spread of nuclear weapons from country to country. We want a ban—if we can get it—on nuclear tests. We do not want our allies to feel it essential to their honor or their safety to pour out their money in wasteful duplication. Probably the West as a whole does not require an increase in total nuclear power. Nevertheless this is a real problem. We cannot just ignore it. We must find a way of meeting the legitimate feelings of our European allies.

Naturally, every extension of trusteeship, every increase in the concept of partnership, has its dangers. But the health of our whole NATO alliance depends on finding a way of building a partnership in the nuclear as well as in the conventional field. The prize of this would be great, and a double one: the prevention of an uncontrolled extension of nuclear manufacture and, secondly, the sense of real unity which would follow a new agreement with our own allies.

In attacking all these problems in the field of defense we have the advantage of the new and fertile

mind of a young and forceful President. In the spirit of partnership we must review the burdens and the responsibilities. Some of these are uneven.

This could be tolerated in the early years after the war with a shattered Europe to protect. But now, in the 1960's, we must look again at our system, if it is to endure. In the same way, the question of nuclear power is fundamental. Its organization is an issue on which the unity of the Atlantic Community may stand or fall. These questions cannot be evaded. They must be faced.

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So far I have spoken of unity in the context of our military alliances. Is this enough? Surely not—and for this simple reason. Happily the present struggle in the world is not primarily in the military sphere. Nuclear weapons at least see to that. The real test will not be on the battlefield but in the market place, even the classroom.

It is now almost 15 years since the main structure of our present system for world trade and payments arrangements was designed. That was in the heyday of the East-West war alliance. The founders of GATT, the signatories of Bretton Woods, and all the architects of our postwar system could not foresee the full economic effects of the great divide.

World economic unity would have been hard enough to achieve in a world of Nineteenth Century nation states; it became impossible as the full effect of the Sino-Soviet system manifested itself. At the same time a new economic force has appeared in the world.



The second Industrial Revolution has already swept through our developed economies and is still only in its early stages. I am sorry to have to tell this audience that it is largely your fault, for this revolution is of a scientific and technological character.

These technical developments overlap narrow national frontiers. They require, for their effective exploitation, ever larger economic units.

I readily admit that in spite of these new factors our international trading and financial arrangements have somehow or other managed to carry a great increase in world production and trade. But no wonder they are now beginning to creak and groan, for they are really an old model. Sooner or later they will have to be traded in.

There are now three main problems to be resolved: The first is how to maximize world trade. This is essential to the prosperity of developed and undeveloped countries alike. Secondly, how best to organize assistance and capital to build up the less developed countries. Our common humanity cries out to us to help here, our economic interest in new markets encourages us, and political necessity compels us. And lastly, how to finance an ever increasing volume of trade and aid. If our monetary arrangements are bad, or outmoded, we shall not succeed. We shall stagnate instead of expanding. And Capitalism must expand or perish. Even Marx knew that.

First, how to organize world trade. Are the present international trading arrangements and institutions, evolved 15 years ago in quite different conditions, really appropriate to the circumstances of the sixties?

We all still think too cautiously, too parochially.

We need to think not so much nationally or even in terms of greater economic co-operation between nations but in terms of wider groupings. For the advantages of size, of large areas transcending national boundaries where capital and labor and goods can move without impediment are surely more manifest to us year by year.

In Britain, we are already in the center of two important trading groups, the Commonwealth and the European Free Trade Association. The Commonwealth trading structure came into being during the great depression between the wars. It is based on a preferential system between the partners, with free entry into the United Kingdom.

But the new developments in Europe are of a different order. The six Common Market countries are successfully forming a full Customs Union which bids fair to be as great in population and strength as that of the United States itself. The Seven—now, with Finland, the Eight—have constituted the European Free Trade Association.

Elsewhere in the world similar groupings are in prospect. What then are we to do? There are, of course, the pessimists—who observe progress, but deplore it; who think it is better to travel despondently than to arrive. These people, no doubt, would try to reverse these trends, or they would ignore them and pretend that nothing has changed.

Surely what we have to do is to use these developments for the benefit of the whole free world. I have no doubt of what our aim should be. We ought to work



Standing behind Mr. Macmillan are President Julius A. Stratton, '23, Sir Harold Caccia, and Dean John E. Burchard, '23.



for the largest area of free trade that we can create.

Free trade for the Free World! That may still be but a vision. It may be a long time before it can take practical shape. Yet many new and vital ideas are now being discussed by practical men which a few years ago would have been dismissed as impractical dreams.

Some of these policies and plans would be quite revolutionary in their effects. Others are more in the nature of palliatives. There are naturally many different views and crosscurrents. But there is a new spirit abroad in the world—you can feel it everywhere. The young are intoxicated by it, and the old happily reinvigorated. It is the spirit of enterprise and adventure, moving into the second half of the Twentieth Century, and soon to knock on the doors of the Twenty-first.

For us in Europe the urgent problem is that of bringing together the Six and the Seven—now the Six and the Eight. I believe that we must and we can do this without detriment to our domestic interests or to our Commonwealth association and without injury to any other nation or group of nations.

A comprehensive arrangement in Western Europe, not highly protective, looking outwards and not inwards, building up its own strength but ready to help others—this would be a real benefit to the whole Free World, both economically and politically. Economically it would take us nearer to a still bigger area of free trade. It would prevent much duplication of investment.

It would stimulate trade and demand. Nor do I believe that a comprehensive European group would harm the United States. United States industry has in the past always obtained its full share of expanding trade.

The pattern varies across the great range of industry but the broad picture remains. A European settlement will bring great economic benefits—the political gains will be even more significant.

The consequences of the economic division of Western Europe are only just beginning to make themselves felt in the political field. Yet, if this economic division persists, the political rift will inevitably widen and deepen. This must, sooner or later, affect our military coherence and strength. It will be a canker gnawing at the very core of the Western alliance. If new and extended patterns of trade are vital for us and our future, they are equally important for the less industrialized countries. These countries have two material needs from us. They want more aid and they want more trade. Trade is really better than aid, with nations as with individuals. An intelligent and energetic man should be able to earn more money than he is able to beg or borrow from his friends and relations.

Expanding trade brings the healthiest economic growth. But trade cannot be confined to primary products, important as these are. Of course there are difficulties for the industrialized countries in accepting increased imports of manufactured goods from developing countries. Of course there is the possibility that sudden or unrestrained increases over a limited range of products can cause too great a disruption for our own producers. We must try to deal with these cases by friendly agreement with the country concerned.

You have done this with Japan, and we have done it with Hong Kong. But the broad rule should be to

admit goods as freely as possible subject only to special modifications which are essential to prevent disruption for our own producers.

Nevertheless, primary products are still the lifeblood of many less industrialized and less developed countries. So expanding trade in the industrialized and developed countries is often the best way to help. For such expanding trade stimulates the demand for primary products. Between 1950 and 1951 commodity prices went up over 20 per cent. That was during the Korean boom. By 1960 they had fallen again below the 1950 level. It would certainly not help the primary producers to try to push prices artificially high.

But there are many schemes for particular commodities which have helped to iron out violent fluctuations in the short term and to give some stability to prices. We must study these problems—urgently.

In its various aspects, trade then is of paramount importance. But trade does need supplementing by aid. In this, up to now, the record of the West compares more than favorably with that of the Communists. In my speech to the General Assembly of the United Nations last September I gave the figures. They are startling and unanswerable. Yet I am not sure that the West always gets full credit for what we do. Much of it is provided through such bodies as the World Bank and now the International Development Association. Although these are within the framework of the United Nations, they are in fact boycotted by the Communist countries. I do not see why we should be content to hide our light under this bushel. That is why I welcome our new—and entirely Free World—machinery: The newly constituted OECD—now to be supplemented by a revised and strengthened DAG—strange initials, under whose frigid exterior is concealed a rare warmth of kindness and imagination.



Trade and aid are very important. But the medium for both must be money—enough money. Of course economists are apt to make heavy weather about money. Naturally, for it's their mystery. But it is really quite simple. Just as each individual country painfully acquired a central banking system, so there ought, ideally, to be a central banking system for all the countries of the Free World. We are still a long way from that although, with the various international institutions which have come into being since the war and with the ever closer co-operation of Central Banks, we are groping our way forward. The present system is certainly not perfect.

As technical men you wouldn't tolerate it in your sphere. First there is the imbalance of payments. If you will forgive a rather frivolous comparison our system now is rather like a children's game when the family sit round to play rummy, or cooncan, or poker, and one child gets all the chips and another has not enough to go on, something must be done. Either more chips must come out of the bank (which Father keeps) or the winning children must hand over some of theirs to the others. Otherwise the game stops.

So in the modern world, if one country were to accumulate all the reserves and lock them up, our system could not go on. I do not suggest blame to any particular countries for the present imbalance of world

payments and reserves. This imbalance is in a sense only the external result of policies arising from the often contradictory fears of individual countries.

In the United Kingdom, for instance, we have a horror of mass unemployment. That dates back to the time between the wars. Now we have full employment—in many parts of the country more jobs than men. On the other hand we have to worry about the dangers of inflation and balance of payments difficulties.

In Germany they have different priorities; they worry more about inflation than anything else. That, too, is for historical reasons—because of their experience when, in Voltaire's vivid phrase, paper was reduced to its intrinsic value. These different national preoccupations have naturally created international difficulties.

Secondly, there is the volume of money. Imbalance of payments is only one aspect of the problem of money. Imbalance deals with who has the chips—or the money—at any given moment. But is there enough money? World trade has expanded four times in terms of money since before the last war. Yet the Free World credit base is only twice as big. No wonder some people argue that we have not got enough reserves in total and must create more to finance expanding trade.

All sorts of remedies have been suggested. The main difficulty about many of them is what I might call the mental hurdles which they present. It is normal to think of money as something painfully acquired; a dollar represents so many drops of sweat or so many ulcers. There seems to be something immoral in increasing credit by mutual agreement. It is done often enough in our internal economies; but the extension to the international field is hard to swallow. All the same, I repeat, expanding trade needs expanding money.

So there are three elements in the economic problem of the free world—trade, development, and finance. They are closely linked.

The needs of our time demand a new attitude to all of them. An old-fashioned or doctrinaire approach is not good enough. We must use the energy and abundance of our free enterprise system to transform our economic life. Above all, we must try to jump the mental hurdles. If the political leaders in the great countries of the world have but the will, the experts will doubtless find the way—or rather several ways—for us to choose from. But we must have the will.

First, we must be ready to welcome the progressive development of new trading arrangements and to see in them a means of moving towards a wider system of unfettered trade throughout the free world as a whole.

Secondly, the industrialized nations must accept their responsibility for raising living standards in the less developed countries, both by trade and aid.

Thirdly, we must ensure that the credit system in the free world is adjusted to these needs and that money becomes the servant and not the master of man's needs. This complex of economic questions is the second great problem whose issue may be decisive for our way of life.



I remember one of our great judges remonstrating with a somewhat prolix barrister, pleading in his court, with these words: "There is in chemistry what is called satu-

ration point—I have reached it." Nevertheless, at the risk of earning from you a similar rebuke, I must repeat—my theme is unity.

In certain spheres, at least, we must reach out beyond interdependence to united action. I have tried to show how we might do this in the military and the economic fields. Should we also attempt a greater political unity or even union in the Free World? Certainly we must try to agree on our policies and to unite in pursuing them. But if the West were to become as monolithic as the Soviet bloc we should lose that very independence of spirit in which we believe.

In any case our diverse national traditions are strong and fruitful. It would be folly to tamper with the loyalties for which men will strive and sacrifice. So when we call for unity in the Free World we should not think—at any rate at this moment of history—in terms of a politically federated or unitary State.

A World Government seems far away, and even a Free World Government is only a distant dream. Nevertheless the nature of the struggle for the hearts and minds of men is such that no one country, not even the greatest, can stand alone.

The first lesson for us to accept is that our political ideas must never be nationalistic in the narrow sense. It is no longer right to consider policies exclusively in relation to the United States or Britain; even Europe or the Americas or the Commonwealth are not big enough. That means a revolution in our thought.

We in Europe will no longer be able to indulge in dreams of self-sufficiency—let alone the wilder chime-ra of being a Third Force between the United States and the Soviet Bloc. You in America will have to resist the temptation to think of Europe as a cross between a bear-garden and an Old Curiosity Shop with certain undoubted tourist attractions. Nor must we forget that the Free World is far larger than any military alliances. There are many nations who would not wish to join us in these groupings but are nevertheless at one with us in the strong determination to preserve their independence and their own way of life.

A few weeks ago a meeting of the Prime Ministers of the Commonwealth was held in London. Twenty years ago this body consisted of only five countries, all of European stock. Now there are more than double that number, including members in Asia and Africa. The Commonwealth represents the triumphant evolution of our colonial policy, for we have given these countries the twin benefits of freedom and order. Nowadays the Commonwealth includes some of the most important non-Communist countries, not ranged with us militarily, but spiritually and ideally our partners.

This recent meeting, as you may have heard, had its melancholy side. But the decision of South Africa to leave us—I hope only temporarily—has at least underlined the essential characteristic of the Commonwealth today. It is an association of different races and peoples. It is dedicated to the ideal that all peoples, of whatever race, color or creed, should have full equality of opportunity in their own countries and in the world.



To sum up: you and we believe that individual peoples and individual nations should be free to pursue their





**The Rockwell Cage was filled to capacity and many thousands more heard the British Prime Minister's address via television.**

own ideals, and that this is compatible with widely different cultures and traditions.

The Communists, on the other hand, have an ideology which insists that it alone is right. Inspired by this rigid creed, Communism seeks to impose its own system on the world. Our unity, therefore, cannot be enforced. It must develop freely—not as a result of external conquests, as with some great empires in the past, but through an organic and conscious growth.

If then we reach out towards unity in our defense, in our trading policies, in our economic life and in our political thought, shall we in the West have won the world struggle? At least, I would say, we shall have put ourselves in a position not to lose.

This whole generation are taking part in a great and dramatic debate—conducted, not just in words or thoughts, but with all the formidable apparatus of power. Its result will be judged by the harsh tests of practical success. Nevertheless, the struggle between what we call the Communist bloc and the Free World is fundamentally an attempt to decide between two concepts of humanity—the idealist and the materialist.

Will man's destiny be fulfilled when once all men can satisfy their material needs? Or is there some deeper purpose, some higher power of which our bodies are only the transient manifestation? This great debate—I say—goes on across the world. It is not daunted by frontiers nor shut out by censorship. Sooner or later men and women in the Communist world will seek once more the answer to the eternal questions:

Why are we here?

What is life's purpose?

Is there a right and a wrong?

Is there God?

Our Faith tells us that they will ask these questions and that in due course they will find themselves forced to answer them in the idealist sense. Then the great struggle on which we are now engaged may suddenly seem irrelevant. It may become a mere disagreement as to the best forms of social organization. It is against that day that we must prepare and until that day that we must hold on and hold together. This does not mean that we should abandon our efforts to use the United Nations Organization to the full. For it does at least stand for the principle of international law as the basis for international life.

Nevertheless, it would be foolish to disregard the pressures now being exercised and the attempts of the Communists to turn the United Nations, not into a forum for negotiation, but into an arena for propaganda. Therefore, while we must struggle on to make the United Nations a success, we in the Free World must strengthen rather than weaken our own unity. These measures which I have suggested, and others which will become necessary, are the essential framework to buttress our endurance. If these things are not done, then our Western free idealist way will fall apart, and our disunity and weakness will discourage those very elements in the Communist world which otherwise in time will work its salvation and our release.

There is always change and movement in our lives. History does not stand still. Unless we work for greater unity now we shall slide into division. The time is short. Let there be no delay.





The Institute's honored guests banqueted at the Statler (above) while 1400 Alumni dined on campus on Centennial weekend.

## A Magnificent Challenge to Scientists and Engineers

*AT THE Centennial Banquet on April 8, Chairman James R. Killian, Jr., '26, of the M.I.T. Corporation delivered the principal address. Dr. Killian said in part:*

**I** HAVE spent enough time and energy this past decade working on problems of national security and strength to have gained an indelible sense of the hazards we face, the enormous difficulty of reducing these dangers, and the urgent imperatives to maintain Free World strength and unity. Despite all this I still have an abiding conviction that we can, that we must, clear the roadblocks to peace, that we can bring the arms race under safeguarded control, that we can reduce suspicion and misunderstanding between East and West, between little nations and big nations, between creeds and races. We will not progress towards these goals without a faith that even though the dawn may be cloudy, we stand on the threshold of a better day, a day of such splendid possibilities for all peoples that they surpass the imagination.

One cannot live in the atmosphere of a great research and educational institution, renewed year after year by youth with its hopes and energies and by students, old and young, with their dreams and discoveries, without acquiring a faith in the power of intelli-

gence, operating with good will in an environment of freedom, to achieve this kind of future.

Clearly at this point in history scientists and engineers are in a uniquely favorable position to help in reducing tensions, in encouraging co-operation between nations, and in meeting the crisis of the newly developing nations. I do not suggest that science is the sovereign remedy for the world's turmoil, strife, and cleavages. It is not. Political leadership marked by wisdom, imagination, and maturity is an overriding requirement and all the professional resources and wit of nations are required to keep the peace and to maintain the Free World strong, free, and unified. . . .

Since our principles and policies impel us to aid the new and less developed nations, we must face the fact that our knowledge of how to do it is frequently as underdeveloped as the nations we would help. Our aid programs should be supported and guided by a research program as intensively and professionally pursued as the research and development programs underlying our defense. An idealistic impulse to aid is not enough; we must bring together teams of specialists—economists, engineers, agriculturists, sociologists, educators—carefully prepared and armed with research results for work in the specific area to be aided.

*(Concluded on page 76)*

# Man's New View of Himself

BY WILLIAM PINKERTON

WITH a witch on trial, science did not divert the flow of justice in the courtroom of Sir Matthew Hale. This Lord Chief Justice of England was a Seventeenth Century man of wide learning, well versed in law, literature and philosophy. What is more, he took great interest in the mathematics and physical sciences of his day. Yet, when the old woman came before him charged with cursing a neighbor, Sir Matthew heard the evidence solemnly: shortly after the curse, the neighbor testified, "as soon as his sows pigged, the pigs would leap and caper, and immediately fall down dead;" a few weeks later, the neighbor was "vexed with a number of lice of extraordinary bigness," and had to burn his two best suits to get rid of them. As an act of justice, morality and piety, the witch was hanged.

That story from three centuries ago, told by the British novelist and philosopher, Aldous Huxley, opened for an audience which filled the great sweep of Rockwell Cage on April 8 this question: How Has Science in the Last Century Changed Man's View of Himself?

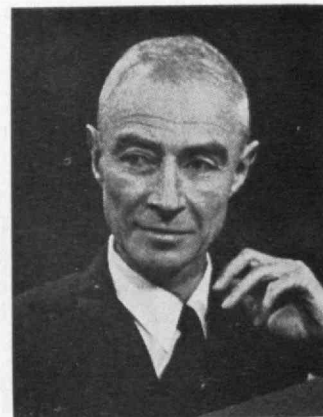
To think out loud about the answer under the urbane prodding of Dean George Harrison, four fine

brains looked out from the conference table: two philosophers, Huxley, and the Protestant theologian Paul Tillich; and two scientists, psychologist Jerome Bruner of Harvard and physicist J. Robert Oppenheimer of the Institute for Advanced Study at Princeton.

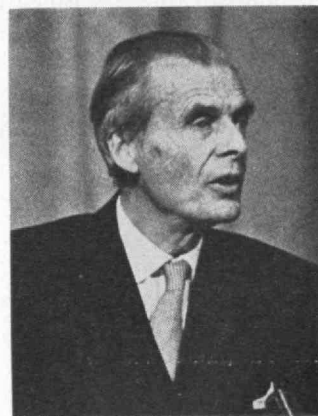
Seventy years after Sir Matthew's verdict against the witch, Huxley noted, the world-view which made the judge so sure had evaporated. Man was beginning to see more in the cosmos than a "haunted telephone booth (built in B.C. 4004)." Galileo had challenged the earth-centered view of the universe, Newton had studied gravitation, and Harvey had demonstrated the circulation of the blood. By the time M.I.T. was founded in 1861, other concepts were altering the world-view, particularly Lyell's geology and Darwin's *Origin of Species*. From the mid-Nineteenth Century, the stream of ideas grew as the Institute grew: men studied germs, the unconscious, radioactivity, relativity, uncertainty, quantum theory, nuclear physics, and the theorems of Goedel.

What world-view can man accept now? Huxley answered: "For man as a private individual, a change of world-view is not quite so important as the professional manipulators of symbols would have us believe . . . It is not primarily by words and notions that adults and children can be made happy or even virtuous; it is by decent living conditions, by love received and given, by a sense of worth admitted by other people, by a sense of belongingness that we are made happy.

"But . . . in the complex world of advancing technology, rocketing populations and idolatrous nationalism, personal happiness and personal virtue are not enough. The unique individual is also the citizen,



J. R. Oppenheimer



Aldous Huxley



Jerome S. Bruner



Paul J. Tillich

*EACH of the five reporters who covered Centennial panels for The Review found the discussions stimulating: William Pinkerton is director of the Harvard News Office; Robert R. Rathbone is associate professor of English at M.I.T.; Laurence W. Martin is assistant professor of political science; John Pomfret is an editorial writer for The Milwaukee Journal, and Robert Toth is a science reporter for the New York Herald Tribune. Mr. Pomfret and Mr. Toth have been at Harvard as Nieman Fellows this academic year.*

a member of the dominant and most destructive species on this planet. . . . But in the future, as in the past and at the present, the collective destiny of the race will be in the hands of a minority. If the members of that controlling minority—such as you here at M.I.T.—can understand what is happening and what is likely to happen in the foreseeable future . . . if they can accept, resolutely yet humbly, without arrogance, the terrifying responsibility for human and even planetary destiny imposed upon them by the new view of man and the scientific achievements to which that new view is a corollary—then we can look forward to the future with a measure of confidence.”

If this minority fails, however, to accept the new view of man and nations, we are in for “the worst quarter-hour in human history.”

Tillich, in turn, stated the problem in terms of man’s inner aim, his “telos.” For the Greeks, it was to make actual man’s potentialities; for the Middle Ages, the aim was to elevate man from a universe of finite aims to a universe of ultimate reality; since the Renaissance, man’s aim has been the active subjection and transformation of nature and of man’s own world.

But what is the end, if the production of means is the inner aim? It is true that the production of tools serves man’s happiness, glorifies man’s possibilities, liberates him, makes life easier and longer for the mass of people. But the loss of a true inner aim—the endless production of means without an end—dominates our era.

Three shocks changed man’s view of himself in M.I.T.’s first century. First, there was the shock of evolution. This shock vanished when it was understood that the genesis of a being does not determine its character. The view of man as creature was not changed but deepened by the theory of evolution. Second, there was the shock of the concept of the unconscious. The shock came originally from the ethical implications; from Freud’s antireligious bias, and the resistance of moralistic society to discovery of its underground motives. But the concept has become a powerful support for the religious valuation of man’s predicament. The third shock was “reductionist behavior-

ism”—the idea of the conditioned reflex, and “social and psychological engineering.” This was the shock of Huxley’s *Brave New World* and of psychologist B. F. Skinner’s novel *Walden II*—the notion that man is nothing more than an object, a thing altogether conditioned; and the universe is the sum of things to be described and manipulated. But who controls the psychological conditioner and who manipulates the social engineer? The only answer given is the Big Brother of Orwell’s 1984.

Science cannot reduce the bearer of science to a mere object of manipulation. Against the falseness, not of science and technology, but of “scientism and technicism,” Tillich called for a view that includes “all dimensions of the multi-dimensional universe man is.”

Turning then to the scientists, Dean Harrison called for the answer of Professor Bruner, who has been studying the effectiveness and ineffectiveness of processes in human problem solving, and whose recent book, *The Process of Education*, has been widely discussed. He offered these propositions:

¶ Man does not treat directly with nature. Nature, instead, is a construct, “a symbolic world of man’s own collective creation,” designed to put order into experience.

¶ Man’s image of himself is limited and given shape by his view of the world.

¶ Fate is basic in man’s view of the world. And Fate is that which is beyond one’s control. In our day, the peopled Fate of the classic Greeks has given way to the Fate of mathematical statistics and statistical mechanics—to pure unknowable randomness.

¶ The inverse of Fate is what is humanly possible. Each discovery of man is an incursion into Fate, and rolls back the limit of Fate.

¶ The increase in what is humanly possible brings an elaboration of technology and a division of labor. More things are possible now, but social and technological organization are necessary to bring them off. The artificer of the possible is now society rather than the individual.

¶ Man’s image of self is anchored in his intimate way of life. We have not reduced the tragic in life, but we have widely expanded the conception of what is technologically

and humanly possible. The deepest change is man’s view of the self as intelligence, of man as knower, and of science as an enterprise of thinking. In our technology, we have advanced to the use of artificial intelligence resting on computer techniques. Today, technology is seen, not as an extension of man’s arm, but as an extension of his intelligence.

With the collapse of a transcendental doctrine, man sought the ersatz absolutism of the Right or tried to sanctify Marxist inevitability. Both are opposed to the definition of ideals in terms of individual reason and compassion. There is another possibility in a human ethic based on the psychological study of man. We are moving to a new ideal: the cultivation of individual excellence. Typical is the reform movement in American education today, sparked by the work of Professor Zacharias in the Physical Science Study program at M.I.T. Here, man is rolling back Fate by increasing his own effectiveness.

Finding how we may use our capacities as human beings effectively is more exciting than exploring empty space. In developing the arts of peace, we may find an expression of the new image of man that the century has produced. It has been powerfully energizing for the full utilization of our powers as human beings. We must aim to live at the full limit of what is possible—to use effectively those portions of Fate that we have taken over.

Finally, J. Robert Oppenheimer rose, to warm applause, to tackle the question: How Has Science in the Last Century Changed Man’s View of Himself?

To be shocked by a scientific advance, he suggested, one first must have held the world-view that is to be replaced. For this reason, science has affected man’s view of himself less in the last 100 years than in earlier times. The new ideas of physics—the expanded universe, the special theory of relativity with its “unhitching of man’s ideas of space and time,” and quantum theory which “shot out any complete determinism from the heart of physics”—were not terribly relevant to the anxieties, the hopes and visions of life among men. It takes an accident to make a scientific

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# Their Ultimate Objective Is Total Disarmament

BY LAURENCE W. MARTIN

A GREAT DEAL of the common stock of ideas about arms control has originated in the Cambridge area from the joint endeavors of those associated with Harvard and M.I.T. It was therefore appropriate that three of the five men on the platform when arms control was discussed on the Centennial weekend were representative of those endeavors. They were Jerome B. Wiesner, who is now Scientific Adviser to the President, Paul M. Doty, Professor of Chemistry at Harvard, and Richard S. Leghorn, '39, President of Itek. Mr. Leghorn provided the day's spot news by announcing that the Centennial Week had inspired him that morning to raise the money for an institute for the study of world security arrangements. Completing the panel were Herman Kahn of the Rand Corporation and, a voice from another age, Philip Noel-Baker, Nobel Peace Prize winner and for more than 40 years an indefatigable advocate of disarmament.

A group brought together for such an occasion as this can rarely break new ground and this panel was no exception. Yet, as so often when several men in the mainstream of policymaking expound their subjects, the manner of their approach and a phrase here and there serve as a useful indication of the trend of advanced thinking.

Despite the range of attitudes represented, no one would belittle the danger of the existing military situation. These misgivings were most impressively expressed by Mr. Kahn, one of the bluntest and most outspoken men at large. He put his sense of the almost immeasurable potentialities for harm in the misuse of modern technology most vividly when he declared that in designing the weapons of tomorrow he and his colleagues were "looking at problems no man has a right to look at."

For those familiar with the recent course of debate on disarmament and arms control the most striking feature of the afternoon was that

every speaker accepted the need to pose comprehensive and total disarmament as the ultimate goal. Some, notably Kahn and Leghorn, could see more value in limited measures as an intermediate stage, while Noel-Baker could see virtually none. But no one quarreled with the final goal. Thus Mr. Leghorn, who has claims to have invented the idea of "stable deterrence"—an unassailable balance based on mutually invulnerable forces—renamed this "transitional deterrence"—in transition, that is, to the elimination of even the most defensive forces.

This seemed the only adequate solution to everyone, although estimates as to the difficulty of attaining it varied widely. Mr. Noel-Baker saw little difficulty; Mr. Kahn could not conceive of reaching agreement on such drastic steps without the stimulus of some major crisis, nuclear accident, or even sizable atomic war. Professor Wiesner felt that only comprehensive schemes could avoid the immense complexity of partial schemes with their inevitably complicated rules and definitions. Professor Doty suggested another argument for the comprehensive approach. Only by proposing such schemes, he thought, could each of the major nations reassure others of its earnestness and display the trend of its thought so as to make possible a "confrontation of policies." No piecemeal approach, Doty suggested, could fail to be overtaken by the pace of military technology.

Another interesting common theme was the conviction that disarmament must be thought of as a dynamic state of affairs. Presumably this thought arises from a sense that we cannot hope permanently to replace all the functions of a progressive arms race and military struggle by a static state of disarmament. Rather there will have to be a set of substitute processes. A number of phrases in which participants referred to the goal they set themselves will serve to illustrate this

(Continued on page 62)



Herman H. Kahn



Paul M. Doty



Philip John Noel-Baker



Richard S. Leghorn, '39

# The Arts in the Future: Will Science Change Them?

BY ROBERT R. RATHBONE



Louis I. Kahn



Howard Mumford Jones



Lukas Foss



Richard Lippold

FOUR distinguished disciples of the arts—a composer, a philosopher-critic, an architect, and a sculptor—assembled in Kresge Auditorium on April 8 to discuss “The Future of the Arts in a World of Science.” They were Lukas Foss, Professor of Music, University of California (Los Angeles); Howard Mumford Jones, Lowell Professor of Humanities, Harvard University; Louis I. Kahn, Chief Critic of Advanced Architectural Design, Yale University; and Richard Lippold, sculptor and Assistant Professor of Art, Hunter College. Dean Pietro Belluschi of the M.I.T. School of Architecture and Planning was the moderator.

Before introducing the speakers, Dean Belluschi referred to the reports on the International Conference on Scientific and Engineering Education, given the previous day. Each report, he observed, had a common thread: a vital concern for human destiny and the human spirit. This concern, he pointed out, justified the choice of the topic for discussion.

Howard Mumford Jones, the first speaker, asked, “Why is it assumed that the future is going to be a world of science?” The triumph of science at some future time, he said, has been announced on several occasions in world history, but such science as we have is at the mercy of politics, decline of population, war, and the alternating beat of Yin and Yang. He then pointed out that if the problem really is “how shall art deal with science?” what we mean by science must be clearly stated. Does the term include pure science only, or pure science plus applied science, the philosophy of science, technology and engineering, medicine and psychology, and perhaps even the pseudoscience of advertising? Professor Jones said he believes that art will deal with all the problems that these fields impose as it has dealt with them in the past: “It will continue to operate in terms of youth, maturity, old age, and

death; in terms of love, hate, awe, fear, reverence, and pity.”

The real change that science has made and will continue to make in art is in its expression, not in its nature or its task, he suggested. Modern science, for example, is the product of an urban culture that has developed a kind of “horror of wildness,” and this attitude, Professor Jones said, appears in the arts. Fortunately, it has altered only the vocabulary of art and not its age-old themes. He concluded by quoting from Sandburg’s *Four Preludes on Playthings of the Wind* and by noting that it is well to be humble even before the triumphs of science.

The next speaker, Lukas Foss, began by poking a little fun at the modern composer. Today, the composer likes to be regarded as a scientist, Professor Foss said, and he has adopted such a highly technical vocabulary that at times he is unintelligible and ridiculous. In addition, his approach to artistic invention is a scientific approach, and his training involves more and more technical subjects, such as information theory and acoustics. Many believe that this influence will produce a generation of “scientific composers” who rely solely upon technique to create their art. But Professor Foss is less pessimistic. He believes that there is no reason to hold that great music must be invented only by intuition. The ideal is a wedding of the intuitive and analytical minds, he added, and the scientific composer will not be successful unless his technique is an inspired technique.

Professor Foss believes that the main difference between the artist and the scientist is that the artist wants to build a monument and the scientist is interested in self-enlightenment. Both are rational beings; both have much in common. Except for the difference of purpose, the frontier between the artist and the scientist is hardly discernible.

Third to speak was Richard Lippold. He commented first on what

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# Industry in the Future: Will Man's Role Change?

BY JOHN POMFRET



Edwin H. Land



William Oliver Baker



Frank Pace, Jr.



William H. Whyte

TECHNOLOGICAL change is swiftly remaking the industrial face of America. That it will remold the life of industrial man as well seems a certainty. In the process, the great need will be for the broad-gauged, creative, flexible man. Developing him will be a difficult task requiring substantial changes in the present industrial environment.

Those were some of the impressions that emerged from the M.I.T. Centennial panel that considered "The Life of Man in Industry." The participants were William O. Baker, Vice-President—Research, of the Bell Telephone Laboratories; Edwin H. Land, Institute Professor and Chairman of the Polaroid Corporation; Frank Pace, Jr., Chairman of the General Dynamics Corporation; and William H. Whyte, author of *The Organization Man*. Dean Howard W. Johnson of the School of Industrial Management was the panel's chairman.

Dr. Pace began the discussion by posing the "compelling question" of whether industry today is producing the kind of men needed to see the nation through the next half century, not just in terms of industry's requirements, but in terms of those of the nation as well. His answer was no.

Such a man, according to Dr. Pace, should be informed, aware, and able to react quickly to a world in flux. Technological change will bring with it "better people, a higher standard of living, and will permit us to remain competitive throughout the world." But, it also will pose problems of a complexity heretofore unfronted—problems that new talents will be needed to solve.

As a nation, Dr. Pace observed, we have not been remarkably perceptive and understanding toward those affected by technological change. The first victim was the farmer, who learned that all of the old traditional American qualities of thrift and hard work did not guarantee survival. Now we are in the midst of enormous industrial

technological change, and must realize that the broad responsibility to think out the problems of those affected by it "lies with us totally as a people." There will be need for reassessment in both the political and economic arenas. We will have to ask whether our old system of checks and balances is "an anchor in a sailing race against the Communist system," and will have to take a look at our tax and social security systems.

In facing our responsibilities abroad, Dr. Pace said, we will need political, cultural, and scientific maturity. "Underdeveloped nations are looking to us for the capacity to stay on top . . . They are also looking to us not just to give them something, but to give it wisely. Finally, they look to us for a sense of understanding, of community; not a sense of condescension." Since ours is, and is going to be, a free enterprise system, the problem falls squarely on whether the system is capable of changing to produce the kind of man who will be needed.

Dr. Baker declared that managers, particularly executives, and union leaders, recognize too little of the dramatic flux of technology and the changes it is bringing. The time has passed, he said, when we can speak of "a life of man in industry." The location of new plants along superhighways is symbolic. They are no more than stopping places. They no longer capture any real part of the lives of those who work in them. Even so, industry still is devoted anachronistically to the concept that man will live his life in it.

It is now possible, Dr. Baker pointed out, to design machines instead of men for purposes of production. But the change has come with such rapidity that it has been missed by many managers and union leaders. Managers still believe that skills must be developed for the manufacture of their specific product. Not so, said Dr. Baker. Training now must prepare men for

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# Physics in the Future: Will It Be Monotonous?

BY ROBERT TOTH

**W**E LIVE in a heroic age in the physical sciences, one that will be looked at with great jealousy in times to come. America could be discovered only once; so, too, the fundamental laws of physics can be discovered only once. The situation now is pregnant.

Thus Professor Richard P. Feynman, '39, theoretical physicist at California Institute of Technology, sees the future of the physical sciences. The other three distinguished panelists who discussed the issue with him on an M.I.T. Centennial panel April 8 shared his view that they are in the midst of a brilliant dawn of discovery. Professor Francis E. Low of M.I.T.'s Department of Physics introduced the speakers.

By assessing the past and extrapolating into the future, they addressed themselves to the question: How long will the dawn last? History does not repeat itself—or perhaps the only lesson learned from history is that no lesson is learned from history—but a look at the 60 elapsed years of this century shows three profound discoveries: special and general relativity theories and quantum mechanics.

Will this pace of fundamental discovery continue unabated? Will it increase? Or will it peter out into the filling of gaps left as the great giant of discovery strides forward? Or will the game end abruptly in one burst of all-illuminating light?

"It is possible," Professor Feynman said, "that there is a final solution," a final unifying law that will explain all of the diverse physical effects seen in the nucleus and the cosmos.

The giant of science is advancing on two feet, one experimental, the other theoretical, he said. The experimental leg at this point in time is far ahead. It has flushed out the profusion of elementary sub-nuclear particles which theorists are at a loss to explain. This giant is now running through a long and darkened building, Dr. Feynman's analogy continued. It may seem to have no ending, only a series of doors each of which must be opened in turn. But it is unwarranted pessimism to say now that there is no single, final door which opens to light. Only if the fundamental laws of physics change with absolute time—and he suggested that this was also a pos-

sibility—would there be no final answer.

Professor Chen Ning Yang of the Institute for Advanced Study in Princeton disagreed. He saw an infinite number of doors in the future. "The depth of natural phenomena is limitless," this young Nobel Prize winner said. When all other questions are answered, man will still be faced with the ultimate one: "How do we understand that we understand?" Even before that, after man has formulated laws regarding how things work, he must cope with such problems as "what is a magnetic field?"

"But even that can't go on forever," said Professor R. E. Peierls, a mathematical physicist from the University of Birmingham in England. Magnetic fields today are explained in terms of hydrodynamics dependent on the actions of molecules. Below molecules are atoms and nuclei, whose actions depend on magnetic fields to some extent. So we come full circle, he said. Once magnetic fields are explained fully, the circle will be forever broken.

While the panelists could not agree—perhaps on philosophical grounds—on the probable end of the road of discovery, they thought they could see relatively clearly what the next few strides along that road might be.

"The rapid widening of knowledge will continue," Dr. Yang predicted. In nuclear physics, he expects  
*(Concluded on page 66)*



Richard Feynman, '39, speaking with (from left) Sir John Cockcroft, Chen Ning Yang, Francis Low, and R. E. Peierls.



Dr. Beadle speaking on panel with (left to right) Hermann J. Muller, Alexander Rich, Jonas Salk, and Peter B. Medawar.

## Biology in the Future: Will People Be Improved?

BY ROBERT TOTH

**W**HY aren't Siamese cats all black? And how does seaweed know which way is up? These questions were posed by Dr. George W. Beadle, Chancellor of the University of Chicago, in opening the panel on the life sciences, presided over by Professor Alexander Rich at M.I.T.'s Centennial on April 8. Dr. Beadle's answers to his questions illustrated the momentous advances made by biologists during the last decade.

Siamese cats are black only at their extremities—the ears, tail, feet, and nose—because those are the coolest parts of their bodies. The agent which makes black pigment will not function at the slightly higher temperatures in other areas of their bodies. Both the precursor of the pigment, and the agent (enzyme) which converts it to pigment, are manufactured by cells from blueprints carried in the genes of the cells.

While genes play this vital role in life, environment is important, too, Dr. Beadle indicated. The bulge in the egg of embryonic seaweed, from which the roots that shoot downward grow, can be induced at any

location on the surface of the egg by such environmental factors as visible and ultraviolet light, oxygen concentration, temperature, and chemicals.

Thus both heredity and environment play roles in the development of life. But how do they do it? Here, too, he had some answers, but the answers suggested other questions for future biologists and geneticists.

The most fundamental question at this juncture in biology's development is: How does a cell know what its job is? It carries in the genes the blueprints for making anything the body needs. Any single cell has information which, if used, could make it develop into a liver cell or a brain cell rather than one that produces pigment, for example. Dr. Beadle likened the cell's genetic store to a cookbook: it contains all possible recipes, but only one or a few are selected for use. How this selection is made is the next big question.

Professor Hermann J. Muller of Indiana University looked beyond the solution. To him, biologists have reached the threshold of a benign "Brave New World." The bare es-

entials by which life can be artificially created and by which one species may be changed into another already have been obtained, he said, although "most scientists, even most biologists, are not yet aware" of it. He cited the production of a gene-like chain of molecules capable of replicating itself as proof that life can be created. He saw man-induced changes in genes as examples of his ability to change species, however slightly.

But men will "not be satisfied forever with gaining knowledge without using it," Professor Muller commented. Once they tie the action of genes to the specific changes they produce, men will seek to repair deficiencies in the body by curing diseases. After that, they will look to making a man out of whole cloth, free of mistakes inherent in "this house that Jack the gene built."

"The biology of the future will increasingly be one of studying what arrangements would be better and how they may be achieved. . . . (Biology) will turn to the never ending task of creation," he said. But he saw no danger in this. "We need not fear that men will move in a direction contrary to that of life itself, or of our own deepest yearnings."

Professor Peter B. Medawar of University College in London took up the issue of eugenics. His thoughts on improving man were

*(Concluded on page 68)*

# Delegates to the Centennial Convocation

*REPRESENTATIVES of schools and other organizations at the Centennial Convocation were:*

Oxford University: XIIIth Century  
SIR HAMILTON ALEXANDER  
ROSSKEEN GIBB, *Professor*

Université de Paris à la Sorbonne:  
XIIIth Century  
RAYMOND CLAUDE FERDINAND  
ARON, *Professor*

University of Cambridge: XIIIth  
Century  
CHARLES OSCAR BRINK, *Profes-  
sor*

Ruprecht-Karl Universität (Heidel-  
berg): 1386  
CARL FRIEDRICH

Université Catholique de Louvain:  
1425  
GEORGES LEMAITRE, *Professor*

Glasgow University: 1451  
JOHN CURRIE GUNN, *Professor*

Istanbul Üniversitesi: 1453  
SIDDIK SAMI ONAR, *Professor*

Kungliga Universitet i Uppsala:  
1477  
OLOF W. FRYCKSTEDT, *Professor*

Universidad Nacional Autónoma de  
Mexico: 1551  
MANUEL SANDOVAL VALLARTA,  
*Professor*

Dublin University: 1591  
FRANCIS C. COULTER

University of Santo Tomas: 1611  
PAULINO JACINTO GARCIA

City of Boston: 1630  
JOHN F. COLLINS, *Mayor*

City of Cambridge: 1630  
EDWARD ALFRED CRANE, *Mayor*  
JOHN J. CURRY, *City Manager*

Académie Royale des Sciences, des  
Lettres et des Beaux-Arts de Bel-  
gique: 1636  
HARLOW SHAPLEY

Harvard University: 1636  
NATHAN MARSH PUSEY, *Presi-  
dent*

Royal Society of London: 1660  
HENRY GEORGE THODE

College of William and Mary: 1693  
WILLIAM GEORGE GUY, *Profes-  
sor*

St. John's College: 1696  
RICHARD DANIEL WEIGLE, *Presi-  
dent*

Yale University: 1701  
KINGMAN BREWSTER, *Provost-  
Designate*

Academy of Sciences of the  
U.S.S.R.: 1725  
LEONID IVANOVICH SEDOV, *Vice  
President*

University of Pennsylvania: 1740  
GAYLORD P. HARNWELL, *Presi-  
dent*

The American Philosophical Soci-  
ety: 1743  
HENRY ALLEN MOE, *President*

Princeton University: 1746  
HENRY DE WOLF SMYTH, *Pro-  
fessor*

Washington and Lee University,  
1749  
EDMUND LEE GAMBLE

Columbia University: 1754  
GRAYSON KIRK, *President*

Moscow State University: 1755  
G. G. CHERNYI, *Professor*

Brown University: 1764  
BARNABY CONRAD KEENEY, *Pres-  
ident*

Rutgers University: 1766  
ELMER CHARLES EASTON, *Dean*

Dartmouth College: 1769  
LEONARD MOOS RIESER, JR.,  
*Deputy Provost*

Istanbul Teknik Üniversitesi: 1773  
FIKRET NARTER, *Rector*

Phi Beta Kappa: 1776  
KIRTLEY FLETCHER MATHER

Commonwealth of Massachusetts:  
1780  
JOHN ANTHONY VOLPE, *Gover-  
nor*

Royal Society of Edinburgh: 1783  
IAN NAISMITH SNEDDON

University of New Brunswick: 1785  
COLIN BRIDGES MACKAY, *Presi-  
dent*

Royal Irish Academy: 1786  
NEIL A. PORTER

Royal Swedish Academy of Sci-  
ences: 1786  
TORBJORN CASPERSSON

Franklin and Marshall College:  
1787  
CLAUDE ALVIN VILLEE

University of Pittsburgh: 1787  
BENJAMIN MORRIS SELEKMAN,  
*Professor*

Washington and Jefferson College:  
1787  
FRANCIS BEGNAUD HILDEBRAND

Georgetown University: 1789  
FRANCIS LEE SWIFT

University of Vermont: 1791  
JOHN T. FEY

Williams College: 1793  
RALPH PHILIP WINCH, *Professor*

Bowdoin College: 1794  
JAMES STACY COLES, *President*

L'Ecole Polytechnique: 1794  
PHILIPPE GOURAUD

The University of Tennessee: 1794  
GRADY CURTIS HOLT

Union College: 1795  
CARTER DAVIDSON, *President*

Middlebury College: 1800  
SAMUEL SOMMERVILLE STRAT-  
TON, *President*

United States Military Academy:  
1802  
JOHN DABNEY BILLINGSLEY, *Pro-  
fessor*

University of Maryland: 1807  
FREDERIC THEODORE MAVIS,  
*Dean*

Koninklijke Nederlandse Akademie  
van Wetenschappen: 1808  
NICOLAAS BLOEMBERGEN

Universitetet i Oslo: 1811  
PAUL GRUDA KOHT

Hamilton College: 1812  
BREWSTER HUNTINGTON GERE,  
*Professor*

Colby College: 1813  
ROBERT WHITE PULLEN, *Profes-  
sor*

University of Michigan: 1817  
HARLAN HENTHORNE HATCHER,  
*President*

Dalhousie University: 1818  
ALEXANDER ENOCH KERR, *Presi-  
dent*



Engineering Societies of Great Britain—Institution of Civil Engineers: 1818  
 Institution of Mechanical Engineers: 1847  
 Institution of Electrical Engineers: 1871  
 Institution of Chemical Engineers: 1922

SIR WILLIS JACKSON

St. Louis University: 1818  
 KEVIN BRIAN HARRINGTON

Colgate University: 1819  
 HORTON GUYFORD STEVER

Leningrad State University: 1819  
 YURI VICTOROVICH NAVOZHILOV, *Vice Rector*

University of Cincinnati: 1819  
 HOWARD KENNETH JUSTICE, *Dean*

University of Virginia: 1819  
 NEAL OSGOOD WADE, JR.

Indiana University: 1820  
 HERMAN B. WELLS, *President*

Amherst College: 1821  
 CHARLES SCOTT PORTER, *Dean*

George Washington University: 1821  
 CHARLES YARDLEY CHITTICK

McGill University: 1821  
 JOHN STUART FOSTER, *Professor*

Universidad de Buenos Aires: 1821  
 WILLIAM LESLIE CHAPMAN, *Vice Rector*

Hobart and William Smith Colleges: 1822  
 OLCOTT M. BROWN

Trinity College: 1823  
 WENDELL EVERETT KRAFT

Kenyon College: 1824  
 CHARLES RAY RITCHESON, *Professor*

Rensselaer Polytechnic Institute: 1824  
 RICHARD GILMAN FOLSOM, *President*

Technische Hochschule Friderici-  
 ana (Karlsruhe): 1825  
 HANS LEUSSINK, *Rector*

Lafayette College: 1826  
 EUGENE HOWARD CLAPP, *President*

Western Reserve University: 1826  
 WEBSTER GODMAN SIMON, *Vice President*



Chief Marshal David A. Shepard, '26, headed the academic procession.

The University College of Sierra Leone: 1827

DAVIDSON NICOL, *Principal*

University of Toronto: 1827  
 CLAUDE T. BISSELL, *President*

Chalmers Tekniska Högskola: 1829  
 NILS GUSTAV JOSEF GRALEN, *Professor*

Danmarks Tekniske Højskole: 1829  
 EGGERT KNUTH-WINTERFELDT, *President*

Universidad Mayor San Andres: 1830  
 ISMAEL ESCOBAR

New York University: 1831  
 CARROLL VINCENT NEWSOM, *President*

Wesleyan University: 1831  
 EARL PLACE STEVENSON

University of Durham: 1832  
 CHARLES ION CARR BOSANQUET, *Vice-Chancellor*

Haverford College: 1832  
 RUSSEL GREENE ALLEN

Oberlin College: 1833  
 ROBERT TAYLOR COLE, *Professor*

Norwich University: 1834  
 ELMER L. MUNGER, *Professor*

Université Libre de Bruxelles: 1834  
 LOUIS GROVEN

University of Delaware: 1834  
 JOHN ALANSON PERKINS, *President*

Tulane University: 1834  
 MOISE HERBERT GOLDSTEIN, JR., *Professor*

Wheaton College: 1834  
 ELIZABETH STOFFREGEN MAY, *Acting President*

Emory University: 1836  
 MAX HALL

Ethnikon Metsovion Polytechnion (Athens): 1836  
 ELIAS PANAYIOTIS GYFTOPOULOS

University of London: 1836  
 ERIC GARDNER TURNER, *Professor*

Mount Holyoke College: 1837  
 RICHARD GLENN GETTELL, *President*

Duke University: 1838  
 JULIAN DERLY HART, *President*

Boston University: 1839  
 HAROLD CLAUDE CASE, *President*

Virginia Military Institute: 1839  
 JAY SANDLES GRUMBLING

Fordham University: 1841  
 JOSEPH F. MULLIGAN, S.J., *Professor*

Ohio Wesleyan University: 1841  
 DAVID FRANK EDWARDS

Queen's University at Kingston: 1841

BERNICE WELDON SARGENT, *Professor*

University of Notre Dame: 1842  
THEODORE MARTIN HESBURGH,  
C.S.C., *President*

Technische Hogeschool te Delft:  
1842  
OENE BOTTEMA, *Professor*

College of the Holy Cross: 1843  
RAYMOND J. SWORDS, S.J., *President*

The Queen's University of Belfast:  
1845  
PAUL P. EWALD, *Professor*

United States Naval Academy:  
1845  
GEORGE LEVICK STREET, III

University of Buffalo: 1846  
JOHN DI GIORGIO

Grinnell College: 1846  
JOHN FORREST CHAPMAN

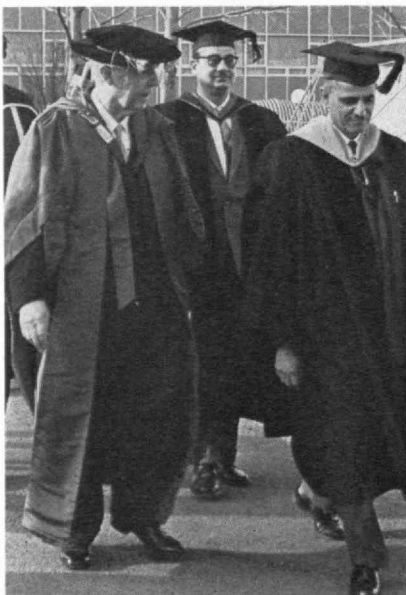
Smithsonian Institution: 1846  
LEONARD CARMICHAEL, *Secretary*

American Medical Association:  
1847  
NORMAN ALPHONSE WELCH

The City College of the College of  
the City of New York: 1847  
HOWARD BLATT

Koninklijk Instituut van Ingenieurs:  
1847  
PIETER HONIG

State University of Iowa: 1847  
VIRGIL MELVIN HANCHER, *President*



Werner W. Jaeger (left), Abdul Abdul-  
lah, '46, and Ram Gopal Chatterji in  
the procession.

Société des Ingenieurs Civils de  
France: 1848  
GERARD DE PIOLENE, *Vice President*

University of Wisconsin: 1848  
FREDERICK JOHN STARE

University of Rochester: 1850  
CORNELIS WILLEM DE KIEWIET,  
*President*

University of Utah: 1850  
STANLEY SMITH STEVENS

University of Minnesota: 1851  
JAMES JOSEPH LINGANE

Northwestern University: 1851  
HAROLD BENEDICT GOTAAS,  
*Dean*

Ripon College: 1851  
FREDERICK OLIVER PINKHAM,  
*President*

American Society of Civil Engi-  
neers: 1852  
FRANK ALWYN MARSTON

Antioch College: 1852  
MILTON CHARLES WASBY

L'Université Laval: 1852  
LOUIS-PHILIPPE BONNEAU, *Dean*

Mills College: 1852  
FLORA BELLE LUDINGTON

Tufts University: 1852  
ASHLEY SAWYER CAMPBELL,  
*Dean*

Cornell University: 1853  
DEANE W. MALOTT, *President*

Manhattan College: 1853  
AUGUSTINE PHILIP, *President*

University of Melbourne: 1853  
WILLIAM WOODRUFF, *Professor*

St. Francis Xavier University: 1853  
HUGH JOSEPH SOMERS, *President*

Washington University: 1853  
STEPHEN SPIEGELGLAS, *Professor*

Polytechnic Institute of Brooklyn:  
1854  
ERNST WEBER, *President*

Eidgenössische Technische Hoch-  
schule, (Zürich): 1855  
ALBERT ESCHENMOSER, *Profes-  
sor*

Michigan State University: 1855  
WILLIAM JAMES CLENCH

Pennsylvania State University:  
1855  
MERRITT ALVIN WILLIAMSON,  
*Dean*

St. Lawrence University: 1856  
GUILFORD WHITNEY FORBES

University of Bombay: 1857  
BAL DADDRAYA TILAK, *Professor*

University of the South: 1857  
RICHARD STILLWELL CORRY

Iowa State University of Science:  
1858  
MORRIS S. COOPER, *Dean*

The Cooper Union: 1859  
HERBERT F. ROEMMELE, *Pro-  
fessor*

Louisiana State University and  
Agricultural and Mechanical Col-  
lege: 1860  
RICHARD BRIAN DARST

Swedish Association of Engineers  
and Architects: 1861  
PELLE ISBERG

Vassar College: 1861  
SARAH GIBSON BLANDING, *Presi-  
dent*

University of Washington: 1861  
NORMAN CHRISTIAN DAHL

Boston College: 1863  
MICHAEL PATRICK WALSH, S.J.,  
*President*

University of Massachusetts: 1863  
JOHN WILLIAM LEDERLE, *Presi-  
dent*

Politecnico di Milano: 1863  
GINO BOZZA, *Rector*

Robert College: 1863  
HAROLD LOCKE HAZEN, *Presi-  
dent (Interim)*

Bates College: 1864  
ROBERT STANTON IRELAND

University of Denver: 1864  
DONALD HOWARD MENZEL

Marquette University: 1864  
JACK BRUCE GREENE, *Professor*

Swarthmore College: 1864  
ARTHUR F. F. SNYDER

Lehigh University: 1865  
HARVEY ALEXANDER NEVILLE,  
*Vice President and Provost*

University of Maine: 1865  
WESTON SUMNER EVANS, *Dean*

Purdue University: 1865  
PAUL FRANKLIN CHENEA, *Pro-  
fessor*

Worcester Polytechnic Institute:  
1865  
ARTHUR BROUGH BRONWELL,  
*President*

- American University of Beirut: 1866  
SALWA NASSAR, *Professor*
- Carleton College: 1866  
PATRICK ANDERSON REQUA
- University of Kansas: 1866  
PATRICIA H. BENEDICT
- University of New Hampshire: 1866  
ELDON LEE JOHNSON, *President*
- College of Wooster: 1866  
WILSON MARTINDALE COMPTON
- Howard University: 1867  
JULIA HAMILTON SMITH
- Technische Hochschule München: 1867  
GUSTAV AUFHAMMER, *Rector*
- University of Illinois: 1867  
PHILIP LOUIS MILLER
- West Virginia University: 1867  
WALTER WARREN POINT
- University of California: 1868  
JOHN GRISSIM PIERCE, *Professor*
- Wayne State University: 1868  
GEORGE ALBERT HANNA
- University of Nebraska: 1869  
MERK HOBSON, *Dean*
- Hunter College: 1870  
MINA REES, *Dean*
- Missouri School of Mines and Metallurgy: 1870  
CURTIS LAWS WILSON, *Dean*
- Ohio State University: 1870  
HENRY HESS BLAU, JR.
- Stevens Institute of Technology: 1870  
JESS HARRISON DAVIS, *President*
- Syracuse University: 1870  
WILLIAM ALBERT ROTUNNO
- Rheinisch-Westfälische Technische Hochschule (Aachen): 1870  
HERWART OPITZ, *Professor*
- Wellesley College: 1870  
MARGARET CLAPP, *President*
- American Institute of Mining, Metallurgical and Petroleum Engineers, Inc.: 1871  
RONALD RUSSEL MCNAUGHTON, *President*
- Smith College: 1871  
GEORGE DE VILLAFRANCA, *Professor*
- Texas Agricultural and Mechanical College: 1871  
CARL B. STERZING, JR.
- Teknillinen Korkeakoulu, Helsinki: 1872  
ERKKI AUKUSTI LAURILA, *Professor*
- Vanderbilt University: 1872  
HARVIE BRANSCOMB, *Chancellor*
- Colorado College: 1874  
DONALD SKEELE TUCKER
- Norske Ingeniorforening, Den: 1874  
NILS CHRISTENSEN
- Rose Polytechnic Institute: 1874  
JOHN BLAIR SHANNON
- American Chemical Society: 1876  
ARTHUR CLAY COPE, *President*
- The Johns Hopkins University: 1876  
RICHARD S. LORD, *Professor*
- Université de Montréal: 1876  
IRENEE LUSSIER, *Rector*
- University of Oregon: 1876  
GORDON RAY JULIAN
- American Bar Association: 1878  
OSMER CUSHING FITTS
- Radcliffe College: 1879  
MARY INGRAHAM BUNTING, *President*
- The American Society of Mechanical Engineers: 1880  
WILLIAM FRANCIS RYAN
- Case Institute of Technology: 1880  
JOHN ANTHONY HRONES, *Vice President*
- Newark College of Engineering: 1881  
MICHAEL DOUGLAS BENEDICT
- Tuskegee Institute: 1881  
ZBIGNIEW WLADYSLAW DYBCZAK, *Dean*
- University of Connecticut: 1881  
VINTON BENJAMIN HAAS, JR., *Acting Dean*
- University of Texas: 1881  
FRANK L. TUCKER
- Royal Society of Canada: 1882  
MERTON YARWOOD WILLIAMS, *President*
- Modern Language Association: 1883  
HOWARD MUMFORD JONES
- American Historical Association: 1884  
ALFRED DU PONT CHANDLER, JR.
- American Economic Association: 1885  
EDWARD SAGENDORPH MASON
- Bryn Mawr College: 1885  
KATHERINE ELIZABETH McBRIDE, *President*
- Georgia Institute of Technology: 1885  
EDWARD EMIL DAVID, JR.
- Stanford University: 1885  
STANLEY SMITH STEVENS, *Professor*
- The Tau Beta Pi Association: 1885  
JOHN AVERY TUCKER
- North Carolina State College of Agriculture and Engineering: 1886  
JOHN TYLER CALDWELL, *Chancellor*
- The Society of Sigma Xi: 1886  
WALLACE REED BRODE, *President*
- The Catholic University of America: 1887  
TIMOTHY FRANCIS O'LEARY
- Clark University: 1887  
HOWARD BONAR JEFFERSON, *President*
- McMaster University: 1887  
JOHN WILLARD HODGINS, *Dean*
- Pomona College: 1887  
MILTON STANLEY LIVINGSTON
- Pratt Institute: 1887  
ROY HERBERT COOK, *Dean*
- American Mathematical Society: 1888  
IRVING EZRA SEGAL
- California Institute of Technology: 1891  
LEE ALVIN DUBRIDGE, *President*
- Drexel Institute of Technology: 1891  
LEROY ARGLUS BROTHERS, *Dean*
- William Marsh Rice University: 1891  
WILLIAM VERMILLION HOUSTON, *Chancellor*
- Illinois Institute of Technology: 1892  
HAROLD G. INGRAHAM
- The University of Chicago: 1892  
GEORGE WELLS BEADLE, *Chancellor*
- University of Oklahoma: 1892  
ROBERT CALVERT
- University of Rhode Island: 1892  
FRANCIS HENRY HORN, *President*
- The Society of Naval Architects and Marine Engineers: 1893  
G. BAER CONNARD



Lowell Technological Institute: 1895

MARTIN JAMES LYDON, *President*

Kyoto University: 1897

YASUYUKI OTANI, *Professor*

Northeastern University: 1898

ASA SMALLIDGE KNOWLES, *President*

American Physical Society: 1899

KARL KELCHNER DARROW, *Secretary*

Simmons College: 1899

ELEANOR CLIFTON, *Dean*

Birmingham University: 1900

RUDOLF PEIERLS, *Professor*

Norges Tekniske Hogskole: 1900

LEIF NORROLF PERSON, *Professor*

American Philosophical Association: 1901

CORNELIUS KRUSE, *Chairman*

The Rockefeller Institute: 1901

DETLEV WULF BRONK, *President*

Leningrad Polytechnic Institute: 1902

L. G. LOITSIANSKI, *Professor*

Waseda University: 1902

JOHN KAZUO MINAMI, *Professor*

University of Liverpool: 1903

SIR HUGH TAYLOR, *Professor*

University of Puerto Rico: 1903

JAIME BENITEZ, *Chancellor*



Eggert Knuth-Winterfeldt, *President of Danmarks Tekniske Hojskole*, and Davidson Nicol, *Principal of University College of Sierra Leone*.

American Sociological Association: 1905

TALCOTT PARSONS

Imperial College of Science and Technology: 1907

PATRICK MAYNARD STUART BLACKETT, *Professor*

University of Hawaii: 1907

KENICHI WATANABE, *Professor*

American Institute of Chemical Engineers: 1908

JOHN JOSEPH HEALY, *President*

University of the Philippines: 1908

MELQUIADES J. GAMBOA

University of British Columbia: 1908

JOHN JAMES CONWAY

Indian Institute of Science: 1909

MANEKAL SANKALCHAND THACKER, *Professor*

National University of Ireland: 1909

THOMAS PATRICK MITCHELL

Reed College: 1909

DAVID FRENCH, *Professor*

University of Saskatchewan: 1909

WALTER GRANT MAY

Connecticut College: 1911

ROSEMARY PARK, *President*

Southern Methodist University: 1911

PAUL K. DEATS

Institute of Radio Engineers: 1912

RONALD LYMAN MCFARLAN

Technion—Israel Institute of Technology: 1912

JOSEPH BEN SIMHA BRAVERMAN, *Professor*

American Council of Learned Societies: 1919

WERNER WILHELM JAEGER

American Geophysical Union: 1919

THOMAS FRANCIS MALONE, *Vice President*

American Meteorological Society: 1919

JAMES MURDOCH AUSTIN, *Secretary*

Babson Institute of Business Administration: 1919

BRYCE PRINDLE

Institute of Technology of the Air University of the United States Air Force: 1919

CECIL E. COMBS, *Commandant*

New School for Social Research: 1919

HENRY DAVID, *President*

University of Alaska: 1922

TERRIS MOORE, *Professor*

Social Science Research Council: 1923

PENDLETON HERRING, *President*

Linguistic Society of America: 1924

ROMAN JAKOBSON

Bennington College: 1925

KENT DE LANCE LAWSON

Texas Technological College: 1925

JOHN RALPH HAVIS

Sarah Lawrence College: 1926

CHARLOTTE HOUTERMANS

National Taiwan University: 1928

WEN YEN TSAO, *Professor*

Institute for Advanced Study: 1930

ERIC G. TURNER, *Professor*

American Institute of Physics: 1931

ELMER HUTCHISSON, *Director*

University of Teheran: 1935

ABOLGHASSEM GHAFFARI

Institute of Food Technologists: 1939

IMRI J. HUTCHINGS, *President*

Australian National University: 1946

WILLIAM IRVING BERRY SMITH

University College, Ibadan (Nigeria): 1947

ENI NJOKU, *Professor*

Brandeis University: 1948

LOUIS LEVIN, *Dean*

University of New South Wales: 1948

HAROLD RUPERT VALLENTINE, *President*

Weizmann Institute of Science: 1948

ABBA EBAN, *President*

University College of the West Indies: 1949

WILLIAM ARTHUR LEWIS

Institute of Technology, Kharagpur: 1951

RAM GOPAL CHATTERJI

Polish Academy of Sciences: 1952

ZDENEK LOUDA

U. S. Air Force Academy: 1955

GERHARDT CHRISTOPHER CLEMENTSON, *Professor*

University of Baghdad, 1958

ABDUL ABDULLAH, *President*

# BUSINESS IN MOTION

## *To our Colleagues in American Business ...*

The extruded copper section sketched below is used in a low-voltage circuit breaker made by one of the country's leading electrical equipment manufacturers.

Originally it was two extrusions brazed together as shown by dotted line. However, it was reasoned, if it could be made as a single extrusion a number of operations would be saved. At first that procedure appeared to be impractical in a copper extrusion as intricate and heavy as this (piece of it only  $3\frac{7}{16}$ " long, measuring  $4\frac{1}{4}$ " x  $4\frac{7}{8}$ ", weighs eight pounds, seven ounces). But the possibility was believed to be worth investigating.

Through close collaboration between the manufacturer's engineering department and the Revere Methods and Production Departments, it was found possible to combine these two sections into a single extrusion. Work was started, dies were made and test runs conducted. The tooling (for hot extrusion was followed by cold drawing) also posed some special problems. It had to be both rugged and precise in order to produce this monster extrusion to the

manufacturer's exacting specification requirements.

Finally, a sample extrusion was delivered to the customer for testing and found to be right in every way.

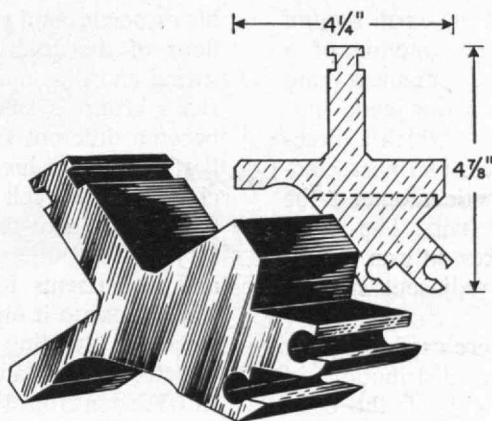
Not only does this Revere Copper Extrusion eliminate much costly machining in the customer's plant, but it obviates the need to purchase separate extrusions and braze them together. An extra benefit was

gained in the form of longer life for the new extrusion, because the heat required to join the two pieces used originally had tended to soften the built-up unit and thus shortened its useful life.

So, while some problems may seem virtually insoluble at first, why not explore the

possibilities by doing as this leading manufacturer did . . . call on the Revere Technical Advisory Service? In that way, by "fitting the metal to the job," Revere may be able to help you to cut costs, produce a superior product, or both.

In fact, it generally pays to adopt that principle with all suppliers—take them into your confidence; thus add their abilities and experience to your own.



### REVERE COPPER AND BRASS INCORPORATED

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Distributors Everywhere

## Trend of Affairs

(Continued from page 31)

### Neutrons and Magnetic Moments

MAGNETIC phenomena have been observed for centuries, but not until recent decades have the intimate details begun to be uncovered.

The magnetic properties of a material are attributable to the interaction of the electrons of one atom with those of another atom, the "exchange interaction." What is the nature of this exchange interaction?

C. G. Shull, Professor of Physics at M.I.T., has been concerned with this question for the last decade, and in recent years has been directing a research project at the M.I.T. Nuclear Reactor, known as Neutron Diffraction Studies in Solid State Physics. Crystal spectrometers receive beams of neutrons from the reactor core through "beam holes" penetrating the reactor shielding, and the crystal selectively reflects neutrons of specific energies. These neutrons themselves are not of prime interest; rather, they become the tool for studying the exchange interaction.

Consider the body-centered-cubic iron crystal, having atoms at each corner and one in the center. The 26 electrons of an iron atom circle the nucleus in various spatial orbits in addition to spinning around their own axes. This is similar to the rotation of the earth around its own axis as it orbits the sun. The motion of a charged particle constitutes a magnetic moment, and the combined effect of these electronic magnetic moments is an atomic magnetic moment, to which a direction is assigned. Generally, only the outermost electrons contribute to the atomic magnetic moment, the inner electrons occurring in balanced pairs. The alignment of these magnetic moments makes an iron crystal magnetic, and further alignment of adjacent crystals produces a magnetic domain.

In early work in this field, x-rays were used to obtain information regarding the electronic distribution in metal atoms, the x-rays interacting with all the electrons. Why are neutrons helpful? Because they possess magnetic moments, whereas x-rays do not. The neutron magnetic moment interacts with the atomic magnetic moment, and the measurement of the scattering reveals the directional and spatial distribution of the atomic magnetic moments. In particular, since the interactions with the inner balanced pairs of electrons cancel, only the effects of the outermost magnetic electrons are observed, and their characteristics are thus determined.

Theory predicts two preferred locations for the magnetic electrons in a cubic crystal, one along the edge of the cube (octahedral direction) and one along the space diagonal (tetrahedral direction). Experiments show that both magnetic states occur. In the iron crystal, there is some preference for the octahedral state. In the nickel crystal, which is face-centered-cubic, the tetrahedral state is more prevalent. This difference in the preferred locations may be the result of the difference in crystalline structure.

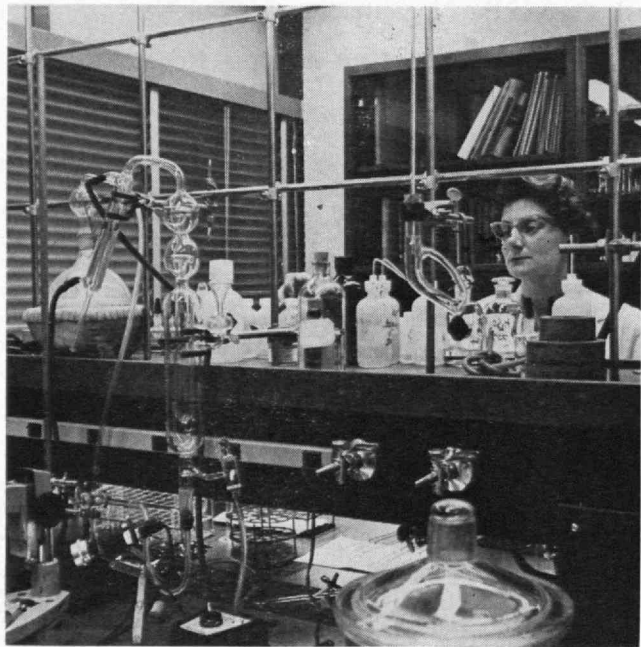
The neutron diffraction spectrometers were built by Professor Shull with a grant from the United States Air Force Office of Scientific Research and the program is supported by the National Science Foundation.



Dr. Bell at work in his new Dorrance Building Laboratory.

### A New Laboratory Is Opened

DR. EUGENE BELL, Associate Professor of Biology, and his associates and graduate students moved to the eighth floor of the John Thompson Dorrance Building this spring and thus opened M.I.T.'s newest laboratory. Dr. Bell's group is studying how cells grow, develop, and become different from each other. Dr. Bell himself is best known for his use of ultrasonic radiation to dissociate cells and cell layers and his discoveries regarding the development of limbs in chickens. His new laboratory has a spotless array of equipment, sterile rooms, and instruments for tissue culture and embryological work. Next to it on the newly added eighth floor of the Dorrance Building is a tissue-culture laboratory, to be directed by Dr. James E. Darnell, Jr., who will come to M.I.T. soon from France.



A staff worker in one of the bays of the new laboratory.

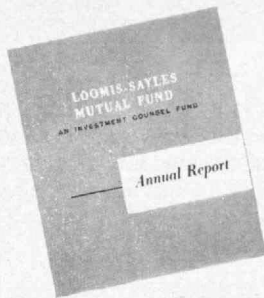


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140 FEDERAL STREET, BOSTON



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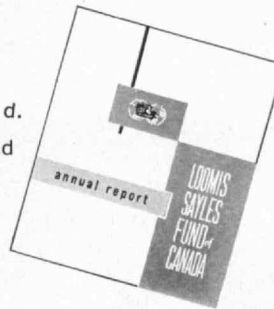
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A Canadian and International Growth Fund

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### The Future of Homebuilding

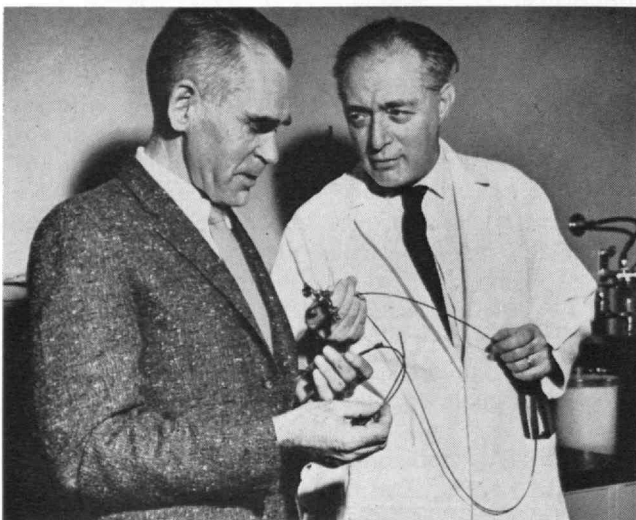
AMERICA'S 20-billion-dollar homebuilding industry now uses some prefabricated components such as roof trusses, wall panels, and cabinets, but most of these really are built in traditional ways from traditional materials.

Should there be more integration of the industry, and more use of mass-production methods and new materials? This question leads to others, such as: What combination of components would minimize costs and still permit flexibility in the design of homes? Can custom-designed homes be produced from such components? Will the local builder's role become analogous to that of the automobile dealer?

Professor Albert G. H. Dietz, '32, J. Lloyd Cutcliffe, '59, and Allan I. Poms have worked out methods for dealing with some aspects of these questions for the National Association of Home Builders.

They have used the IBM 709 computer at M.I.T., for example, to evaluate various combinations of components. Dimensions of 75 houses, carefully chosen as a sample of those being built throughout the nation today, were fed to the machine along with curves showing the cost of components built to various dimensions. Although no one sharply superior set of components was revealed, the computations did indicate that, in general, the larger and fewer the components were, the less the houses built from them would cost. Effecting such savings, however, could entail sacrifices in design flexibility and in the economical use of floor space.

The project also included a study of eight custom-designed houses, which showed that they could be constructed from components without undue distortion if



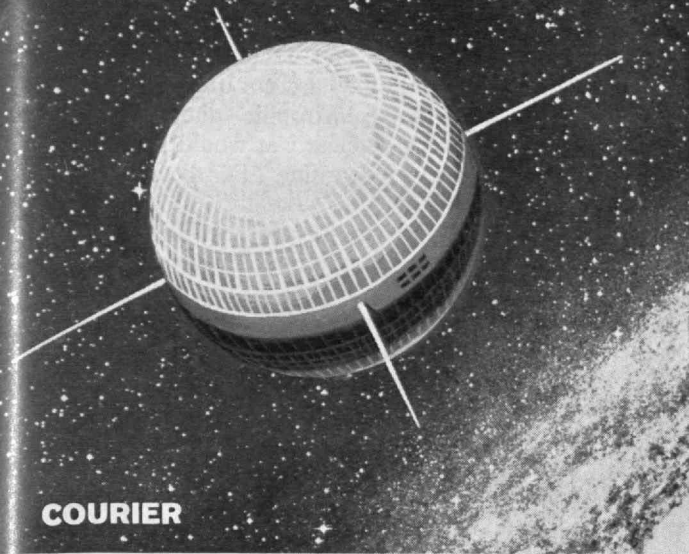
**CATHETERS** are small tubes used to take blood samples, measure blood pressure, and make other observations. Charles W. Gadd, '37 (at left above) headed a group at the General Motors Research Laboratory that recently produced an improved catheter which can be "steered" through the pulmonary artery into the heart's cavities and passageways. Dr. Richard J. Bing (at right) of Wayne State University expects it to be helpful in diagnosing heart ailments.



**TO HAUL ENGINES** being removed from the Steam Laboratory at M.I.T., a 1914 Pierce Arrow truck was obtained. Both it and the engines are destined to go to the Museum of Steam and Marine Engineering in St. Louis. With about 2300 pounds of machinery loaded on it and a trailer, the truck adorned an M.I.T. parking lot for weeks this spring, awaiting a driver.

certain sizes were chosen; and a study of current trends in the industry.

"The construction industry offers an extremely attractive market for large quantities of materials and equipment and is consequently being closely studied by other industries which traditionally have had little or no direct contact with construction," the researchers reported. "A dream or ambition often expressed by component manufacturers is a system in which shell components such as walls and partitions can be produced by a continuous process, often visualized as consisting of a pair of skins or facings proceeding down a conveyor with a core of some kind continuously being produced between the two facings and the three parts of the sandwich simultaneously bonded together. . . . When a continuous sandwich can be cut to any length, and when doors and windows can be spotted in the sandwich as desired, complete flexibility can be attained without the need of an assortment of small components. . . . Other factors, especially equipment, appliances, and fixtures, then would limit the design of the house. . . . It is not at all unlikely that a completely integrated operation will win out unless the homebuilders themselves find ways of acting co-operatively to assure sufficient volume to make it worth while for different manufacturers of materials and equipment to produce the components to be distributed by the local dealer to the local builder."



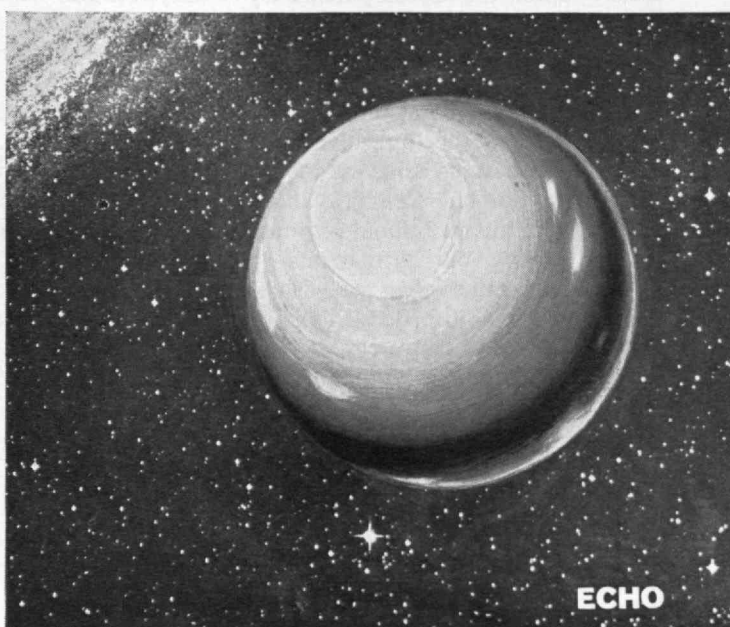
**COURIER**



**DISCOVERER**



**MIDAS**



**ECHO**

## Philco Achievements in Space Technology

Philco has made many major contributions to the nation's vital space programs. COURIER, the world's first advanced communications satellite, was designed and built by Philco. Philco played a major role in the development and installation of the complex communications, command, tracking and data systems for the DISCOVERER program. Space-borne and ground communications systems for MIDAS and other satellites have been Philco designed. Philco developed and installed the tracking and receiving systems for the Air Force Passive Satellite Relay Link, which utilizes

the ECHO satellite. In the field of human factors engineering, Philco has developed personnel subsystems for several major space projects. Philco also produces the world's largest 3-axis satellite tracking antennas.

These achievements are dramatic evidence of Philco's ability to integrate its extensive resources to the design and production of the most sophisticated electronic systems. For capacity, facilities and experience in space technology, look to the leader . . . look to Philco.

Government and Industrial Group, Philadelphia 44, Pennsylvania

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Communications and Weapons Division • Communications Systems Division  
 Computer Division • Sierra Electronic Division • Western Development Laboratories



## Disarmament Is Objective

(Continued from page 47)

point. Thus for Professor Doty the task was to design "a complex system of operations by which we might achieve very much lower levels of arms, with stability at each level." Mr. Leghorn looked for "world arrangements for security from armed violence." Professor Wiesner, in turn, conceived of "the organization of world society in a way which would make it unnecessary to live under the threat of war."

Each speaker surveyed some of the obstacles on the road toward these goals. Professor Doty dwelt chiefly upon the developments by which we have reached our present dilemmas. Destructive capacity had multiplied a thousandfold in 1945 and a thousandfold again in 1953. The problem is the unresolved one of adapting human behavior to this revolution. So far we have been content with the traditional response of multiplying our armaments—a policy fatal to the values we wish to protect. We should proceed flexibly, but with an over-all strategy, to consider each component of the military

balance with a view to its safe dismantling. Each side has varied interests and weapons and we must learn to balance asymmetrical concessions.

Mr. Kahn, in what was probably one of the most lucid explanations he has ever given of his provocative views, set himself to paint a somber picture of current military potential and its possible—or, rather, probable—development. He envisaged cheap, plentiful nuclear weapons—perhaps five megatons for less than a million dollars, even from small-time production, and cheap ICBM's for a fraction of that. One consoling thought was the great deal of voluntary restraint which nations now are observing. None is pursuing the arms race with all its vigor. Few of the potential "nth countries" are engaged in active efforts to acquire nuclear weapons. The two superpowers are working toward unprovocative, stabilizing systems, and methods of control to guard against accident are within fairly easy reach.

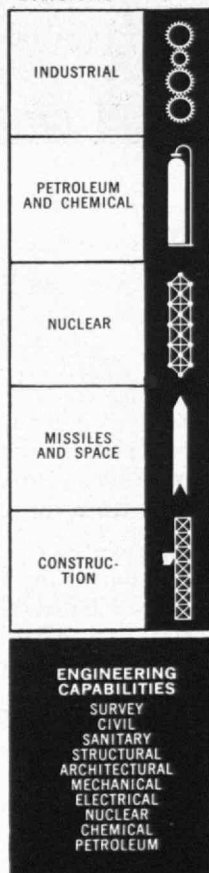
Politically, Mr. Kahn was inclined to believe the Russians are susceptible to the same rational arguments for trying to make the military situa-

tion safer that we are. He felt that possibly they are not quite so aware of the catastrophic dimensions a general nuclear war would have, but "they are learning." For the moment, however, he thought the greatest possibilities for progress were in the nature of detailed agreements on particular stabilizing arrangements. The difficulties of negotiating a comprehensive treaty were such that he considered success unlikely except in an event on the order of the destruction of several cities. In such a case it might be possible to get assent to a treaty which could never be signed in cold blood. If this were to come to pass, it would be necessary to have a clear idea of a desirable treaty in advance so as to avoid prolonged negotiation in which the sense of urgency might wear off. It was for this reason that Mr. Kahn favored efforts to design comprehensive schemes of disarmament: to have them ready for use if a fleetingly favorable moment arrived.

Mr. Leghorn dwelt at considerable length on the constructive purposes to which armament expenditures might be put. It was in this

(Concluded on page 64)

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## Disarmament Is Objective

(Concluded from page 62)

connection that he announced his new institution and a parallel plan for application of advanced management techniques to underdeveloped countries. Mr. Leghorn felt that in the present situation each super-power should retain an equal number of missiles as a guarantee against cheating by the other side. Because it would take more than one missile to eliminate one on the other side, no hope could be entertained of aggression with impunity. Possibilities of accident would still remain, however, and therefore, after the working of the control system had been tried and tested, the residual forces should be destroyed.

Transitional deterrence could remove Soviet fears that controls would render them vulnerable to surprise attack and the resources released from military uses would enable the Russians to remedy some of the poor social amenities which Mr. Leghorn believed their secrecy is also designed to conceal. For meeting threats of aggression with conventional arms, he envisaged a



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United Nations Security Force.

Mr. Noel-Baker struck a completely different note from the other speakers and devoted himself almost entirely to an eloquent exhortation to disarm. Given the will, he declared, the technical difficulties would disappear. They were, he thought, far smaller than the difficulty of designing national forces. We had come, he asserted, to the realization that Woodrow Wilson and other founders of the League of Nations had been the true real-

ists of their day. While he was not opposed to some measures of arms control, provided they were steps on the road to total disarmament, he deplored some of Mr. Kahn's proposals for minimizing the effects of a nuclear war as illusory and dangerous. Recalling the theme of the Centennial, Mr. Noel-Baker concluded by calling on scientists to destroy illusions and establish facts.

There was, unfortunately, no time for discussion, even among the panelists.

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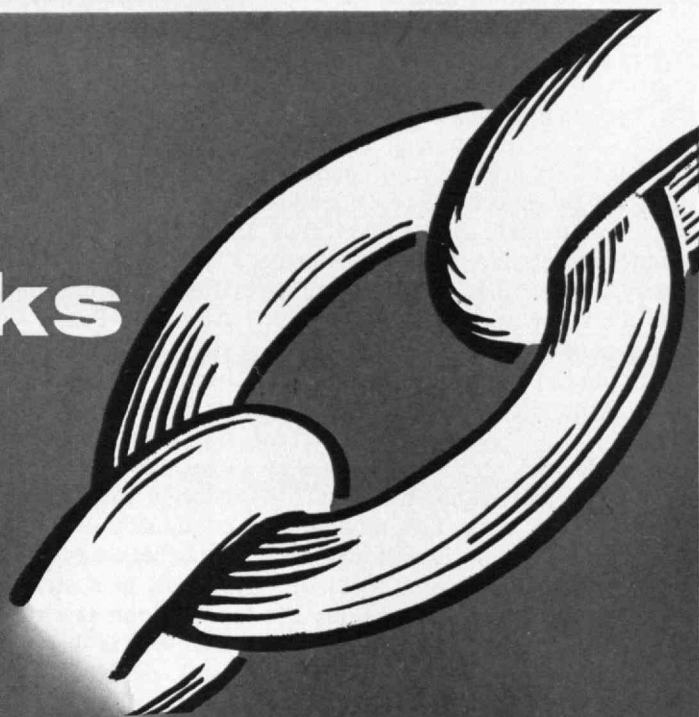


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## Physics in the Future

(Concluded from page 50)

a further quickening of the pace. In the next few years, he anticipates "with some certainty, a great clarification in the field of weak interactions (of sub-nuclear particles) and with luck, the integration of various manifestations into a single unified theory." That theory will encompass the strong as well as the weak interactions and the role of magnetic, and possibly gravitational, fields in the interactions, he predicted.

Dr. Peierls foresaw much the same thing, but within the next 25 years, rather than the next few years. "On the front line of physics, we will be still looking for more particles, for other interactions of the particles at higher energies," he said. A unified theory may be forthcoming, but it will probably arrive in steps rather than in one bold stroke.

Dr. Feynman looked 100 years into the future. He suggested that the game will be over by then, that a final unified theory will have been formulated. It is inconceivable to him

that the rate of discovery—three fundamental ones each 60 years—can continue. If it should, he said, "it would become boring."

Behind the advance into the microcosm of the nucleus, some of the panelists looked to biophysics and cosmology as exciting new areas in the physical sciences.

Sir John Cockcroft of Cambridge University in England, the 1961 Atoms-for-Peace Award winner, said radio astronomy may push back "still farther the boundaries of the observable universe." Its findings may settle the current argument over the origin of the universe: Did it begin with a "big bang" and is it continually expanding; or has it always been and always will be as it now is, in a steady state?

Sir John saw promise for further discovery in the new and more powerful particle accelerators (atom-smashers) that are a-building or contemplated. He posed a question to the panel: Is it worth the time, money, talent, and energy to build these new research tools? And different answers came from Dr. Yang and Dr. Feynman.

"Every time a machine is con-

structed in a new energy region, something exciting turns up," Dr. Yang said. But one cannot predict that this will continue. Perhaps new machines should wait until the data coming from present ones are digested by the theorists. Perhaps the new machines will only add more strange animals to the confusing number already found in the nuclear jungle, making the scene more bewildering instead of clarifying it.

"I want to be bewildered," countered Professor Feynman. The momentum of discovery must be maintained, he said, if physics is not to become impotent. True, the government which pays for the multi-million-dollar research tools must decide whether such "crazy arguments" by the physicists hold up against the competing social and economic needs of the nation. "But we should not give them arguments to use against us," he said.

In this most exciting time in the history of the physical sciences, the attitude of the panelists can perhaps best be summed up in the words of Professor Feynman: "I certainly don't want to retire from the field now."

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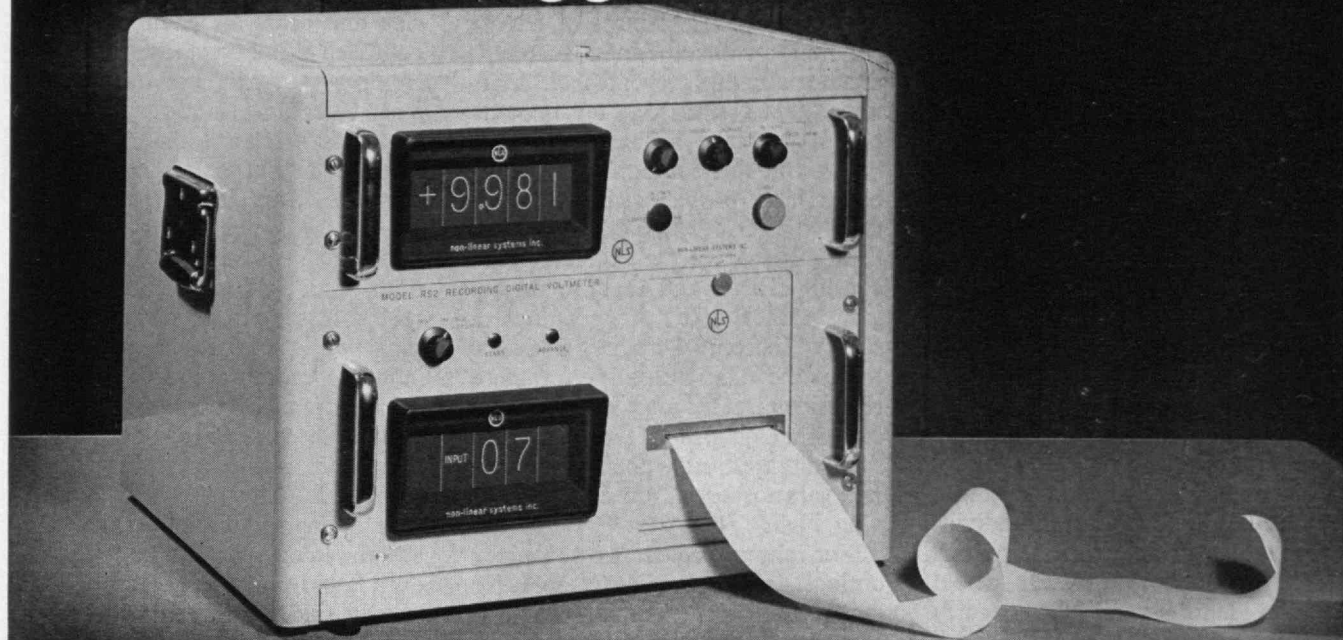
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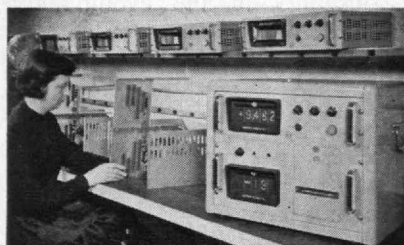
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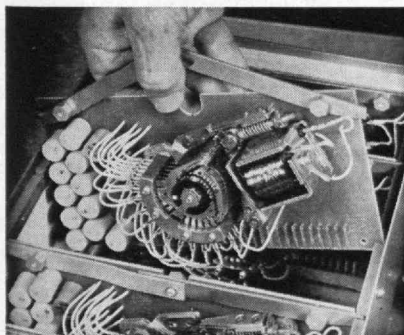
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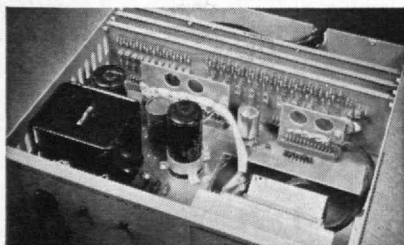
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## Biological in the Future

(Concluded from page 51)

less ambitious than Professor Muller's. Eugenics seeks to improve man collectively as a race as well as individually. These are not always consistent goals, he said. Some data suggest that man as a race may be better off with a high degree of diversity in his genetic storeroom, to cope with new environments, enemies, or infections, as they arise. If this is true, he said, "we may have to abandon for the foreseeable future the utopian ambition of achieving a uniform population of excellent individuals whose progeny are uniformly as excellent as themselves."

In its place, he would substitute a program that he called "piecemeal genetical engineering . . . in which the welfare of the individual is the overriding consideration."

Thus Professor Medawar would seek to identify persons who carry dangerous genes. If they carry a disease-causing dominant gene, he would warn them that all their children will receive it. If they carry a recessive gene that is dangerous, he

would tell them of the probable damage to their children if they were to marry someone who also carried the same recessive gene.

"The humane and rational way to treat the problem is to warn victims of the consequences of having children," rather than to attempt dictatorially to prevent their marriage. Thus warned, "no humane parent will take a chance," he believes. But this solution is not without its own problems, he admitted, for if the "bad" genes do not work their way out of the population by causing disease and death to the organism they afflict, they will very slowly become more frequent. "Thus the ultimate policy for these recessive diseases must be study and cure—and hopes of curing some such diseases, e.g., phenylketonuria and galactosaemia, are already running high."

For inborn diseases, however, the outlook is less bright. A cure for mongolism, for example, which is caused by a genetic accident, is difficult to see at present.

To Dr. Jonas E. Salk, Professor of Experimental Medicine at the University of Pittsburgh, "Man's

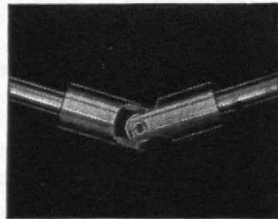
most persistent and difficult biological problem (in the future) will not be his physical diseases, certainly not as in the past, but his relationship to himself and his fellow man."

The developer of the polio vaccine that bears his name speculated on the possibility of impressing on children, as their nervous systems mature, better attitudes, values and goals than those they now get through default or ignorance. New advances show that physical tolerance to foreign cells can be induced in embryos of animals before their birth. This is done before the natural defenses are developed. In the same way, it might be possible to induce "more desirable" human traits in man by way of his central nervous system, which does not mature until well after birth.

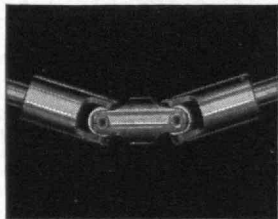
Dr. Salk saw need, too, for hybrid biological disciplines, such as social biology, psycho-biology, and even a bio-philosophy. Bio-philosophy, he said, would deal with "man's continued need for understanding the meaning of different manifestations of life, and for guiding his sense of responsibility in the evolutionary scheme."

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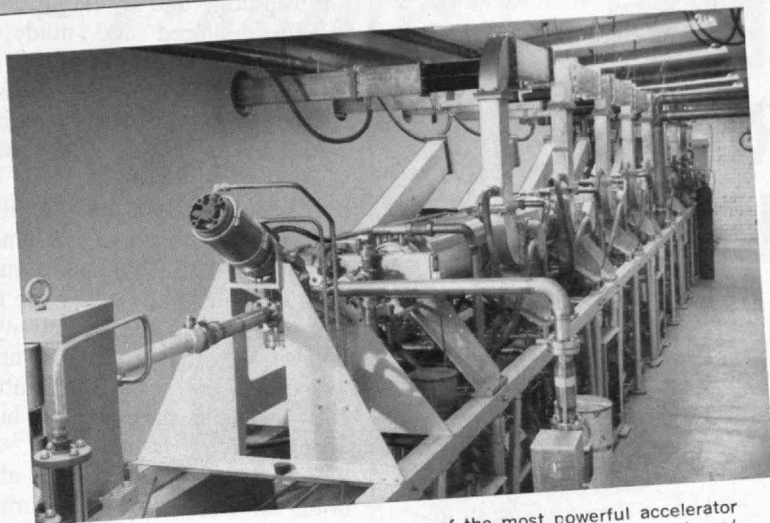
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Two research linacs of considerable sophistication are now being installed at Yale University and Rensselaer Polytechnic Institute physics departments. The Yale machine is a five-section L-band accelerator, producing 28 kw of average radiation power and peak energies of 77 Mev. It will be used in a broad physical research program with emphasis on nuclear cross-section investigations. RPI's accelerator is an unusually powerful neutron physics research tool.

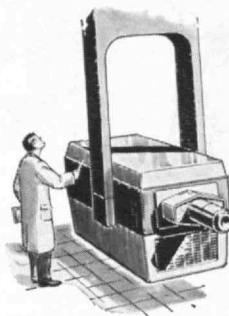
The accelerators of the near-future are exemplified by the machine now being built for the U.S. National Bureau of Standards. This linac, designed to performance specified by the NBS, will produce electron beam peak energies up to 150 Mev. Its 40 kw power output at 100 Mev will be greater than any previously obtained from a linear accelerator and about 100,000 times that obtainable from existing NBS high energy accelerators.

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## Man's View of Himself

(Concluded from page 46)

finding important to man's world-view. Yet some of the findings in anthropology and in evolution have enriched, altered and made more subtle man's view of himself.

The physical sciences in this time have altered our understanding of ourselves as knowers, he said, in three ways:

¶ The breakdown of the attempt to attribute objective existence to matter by philosophical argument. This was accompanied by the necessity to establish the objectivity, the universality, the verifiability and the refutability of science. (Ambiguity is a necessary part of life—but not of physics.)

¶ The strange combination of freedom, choice, action and limitation in putting questions to nature. What we learn is limited by our ability to order thoughts, questions, and techniques. One of the troublesome aspects is this: Really to know something new we have to act, and when we act we change things; so we lose as well as gain.

¶ These conditions help to harmonize our cognitive life with our life of action—love, play, the arts. They have brought the intellectual life of science closer to the life of man. We cannot live without talking to each other about ends as well as means.

The science of the last 100 years, Dr. Oppenheimer ventured, has left intact these aspects of the humane image of man: We recognize man as a universal community, as a universal condition. We know man to be the possessor of great power and knowledge, but finite. We accept a sense of responsibility—of individual responsibility—to our history. In the sciences, he concluded, let us keep this in mind: We are responsible for man's history in the presence of dangers that are unprecedented—and not far from total.

Were these the words of optimists or of pessimists?

The thinkers disagreed. All great seers, Huxley observed, are profoundly pessimistic and infinitely optimistic at some time or other. And no one disputed Oppenheimer's dictum:

"This is a good time not to be cheerful, and a very good time not to give up hope."



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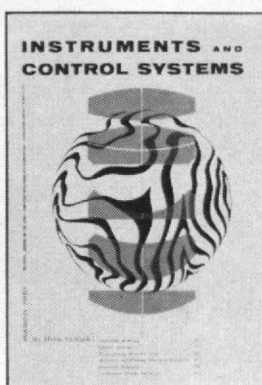
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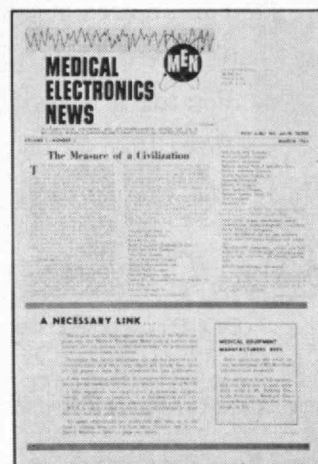
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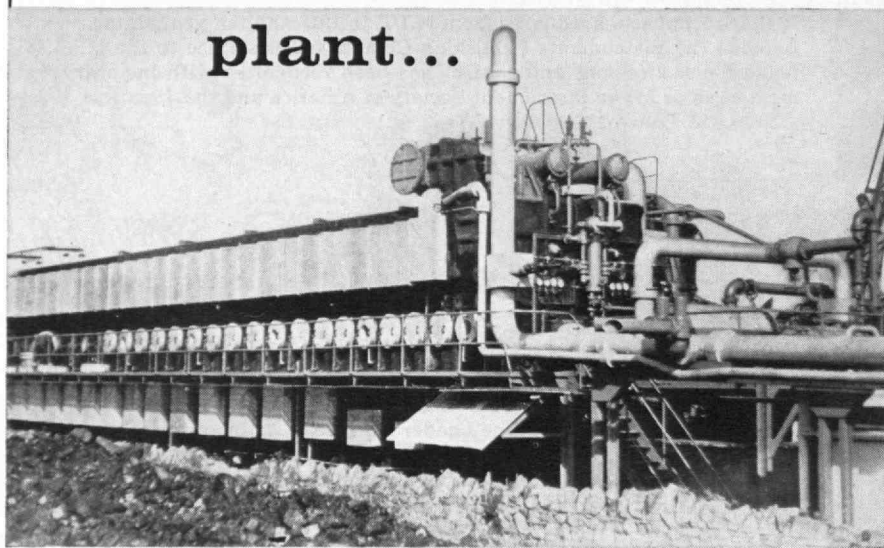
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## **The Arts in the Future**

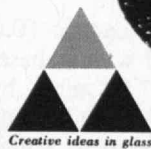
*(Concluded from page 48)*

he believes to be the main difference between the artist and the scientist. The scientist, he said, is concerned with Nature's nature; the artist is concerned with Man's nature. Professor Lippold then made several amusing observations about modern scientific theories and how the artist might approach them. Humility and an effort toward religion have been and will be the motives, he pointed out. By being alive and participating, we find ourselves in a religion. This religion has not been codified; therefore, we do not really know the future. He concluded by listing "people who have sought God." In the list were four names selected at random from the New York telephone directory.

The last speaker was the architect, Louis Kahn, and the points he developed were: The artist strives to make a dream a reality. The dream is unmeasurable; his pencil mark is measurable. Any system, therefore, makes a dream less; religion offers the best approach to realization. The scientist, also, starts with the unmeasurable, but he strives to lose it. In science, everything that is not measurable must be made measurable. The artist must realize, however, that science contributes a new sense of form and design; it offers many exciting outlets. It gives the architect, for instance, a better sense of order—order that is necessary so that our ways of life can be given expression.


In the short discussion that followed the formal talks, Professor Jones reminded the panel that the problem posed in the statement of the topic was answered only in part. More stress was given to the past and the present, he said, than to the future, and nothing was said about how the ordinary citizen can solve the dilemma of the conflict. To this, Professor Foss replied that the artist knows little of the spectator—he speaks to someone, but not to the masses—and this situation is not likely to change. Professor Jones suggested that the scientist is a servant to society and that the artist should try to reach this position. Professor Lippold disagreed. He maintained that the scientist really is not interested in serving the public but in self-enlightenment.

*from*



*to*

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## Industry in the Future

(Concluded from page 49)

a much broader role in virtually any kind of industry.

"The worker sees more and more that he can be a truly interchangeable part. Industry and education must go farther in teaching man how versatile he can be and how great a role he can play in strengthening his nation. Thinking in specialized terms must be abandoned." Skilled, but nonprofessional, workers of the future may derive major satisfactions from learning itself.

Dr. Land hoped for dramatically revised educational arrangements. Everyone should become associated with a university at 15 and maintain it for life. Diplomas should be granted as an epitaph, he suggested. "We are living in a language, talking ideas, using forms, of a generation that has passed. In our generation, we live in a world where science and technology have made it possible for characters like you and me to take the afternoon off just to bull."

He said that there "exists in all industry a magnificent, unarticu-

lated conspiracy which says that I will employ three times as many people as I need if you will employ three times as many people as you need so we can support each others' consumers." It is great that so few have to work, but sad that there is so little truly important work provided for people to do. "When there isn't work to do, people will do work that isn't needed, because they want to work."

But there can be 10,000 new industries, all science based, involving continuous learning by those in them, Dr. Land continued. He looked forward to a life in industry embracing the entire population, divided into clusters of working groups made up of scientists, artists, technicians, and machinists, each working night and day on a vitally absorbing project to create something both useful and beautiful.

"If we can do this, we will have made America exportable. We will have something to offer—how men can live happily and effectively together." No tribal gods stand in the way if we find something that really needs doing. "All we have to do is to say, 'Let us, then.'"

Mr. Whyte foresaw a shift in the image of the manager. The concept that the administrator was a generalist, without a deep emotional commitment to the content of work, was overemphasized in the 1950's, he said, and there will be greater stress on the content in the future. President Kennedy's style of leadership may be contagious. In a sense, it is a throwback to an earlier style of leadership. There is ego, not self-effacement, in it. It is competitive. And the President evidences an absorbing interest in the content of work.

"How can a second-rate man who never has been emotionally involved in work make the vital choices?" Mr. Whyte asked. "We will make this change not because it is a good thing for industry necessarily, but because external challenges will force it."

NEXT MONTH: *The Review* will bring you further reports on M.I.T. Centennial events in addition to the customary coverage of Commencement and Alumni Day activities.

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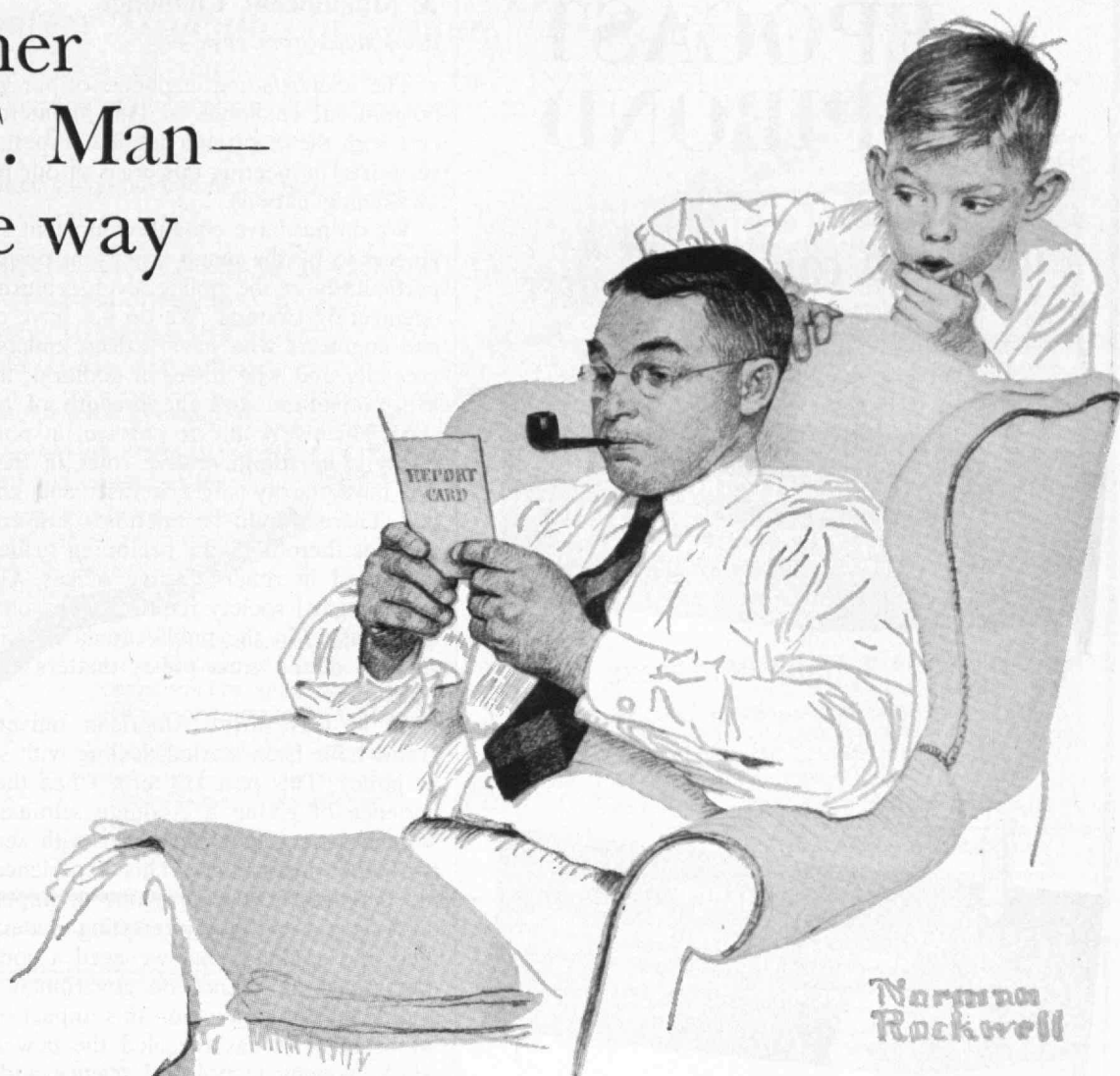
To insure continuity of such advancements, Whirlpool employs over 1,000 people in its research and engineering laboratories alone. Out of these laboratories have already come such developments as the first gas and electric refrigerators

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Aman M. Barber, Jr., '59, Wilkes-Barre

### LEHIGH

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Edward Billstein, Jr., '40, Atlanta  
R. Lester Dodson, Jr., '44, East Orange

### M. I. T.

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## A Magnificent Challenge

(Concluded from page 44)

The scientists and engineers of our generation face a magnificent challenge to join in interdisciplinary concert with the legal and political experts, and the social scientists, in meeting this crisis of our relations with the awakening nations. . . .

We do not have enough competent scientists and engineers to fill the many important posts in government, particularly at the policy level, requiring scientific and engineering training. We do not have enough scientists and engineers who have a deep understanding of their specialty and who have, in addition, the cast of mind, the motivation, and the breadth of understanding to serve effectively and to survive, in policy making, advisory, and administrative roles in the public service. We have hardly any scientists and engineers in politics. There should be scientists and engineers in Congress as there are now beginning to be in state legislatures and in other elective offices. Government in a technological society requires a reasonable compliment of scientists in the public arena if it is to deal wisely with all of the great policy matters arising out of science. . . .

In at least three American universities new programs have been started dealing with science and public policy. This past fall term I had the stimulating experience of giving a graduate seminar in this subject and subsequently I have met with seminar groups in two other institutions. This experience has convinced me that this new field is one of importance, and that there is a wealth of interesting material to be examined and codified, that we need a continuing study of the impact of science on government and on foreign affairs and the innovation this impact has caused. More importantly, it has revealed the new and invigorating winds blowing in political science and the cross-fertilization that is taking place between physical science and political science.

## Centennial Publicity

AT ITS April meeting in the M.I.T. Faculty Club, the Alumni Council heard Dean John E. Burchard, '23, and Francis E. Wylie, Director of Public Relations, recall the backstage crises and humorous incidents during M.I.T.'s Centennial observance.

Clippings about Centennial events covered a whole wall. The Boston *Globe* issued a special Sunday supplement and vied with the other Boston papers in besieging M.I.T.'s Faculty and guests for interviews. More than 150 reporters, including many from overseas, spent the Centennial weekend at the Institute. Accommodations for the press included wire service in the basement of Kresge Auditorium and a balcony erected between two pillars of the Rockwell Cage for the television and film cameras. WGBH broadcast most of the proceedings, and repeated some programs.

Edwin D. Ryer, '20, reported that more than half a million dollars had been contributed to the Alumni Fund thus far this year, and Albert O. Wilson, Jr., '38, announced plans for Alumni Day on June 12. The Alumni Association's President, Clarence L. A. Wynd, '27, presided.



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## Individuals Noteworthy

(Concluded from page 8)

### Centennial Marshals

IN ADDITION to Chief Marshal David Allan Shepard, '26, the Centennial academic procession marshals were: *Marshall B. Dalton*, '15, the Corporation; *Patrick M. Hurley*, '40, *Carlton E. Tucker*, '18, and *Antoine M. Gaudin*, the Faculty; *George R. Harrison*, the Schools and Departments; *John T. Rule*, '21, the Students; *H. E. Lobdell*, '17, the Alumni; *Francis O. Schmitt*, *Martin J. Buerger*, '24, *Carl Overhage*, *Malcolm G. Kispert*, '44, and *Philip M. Morse*, the Delegates; *Carl F. Floe*, '35, the Centennial Institutions; *Joseph J. Snyder*, '44, the President, the Chairman of the Corporation, and the Guests of Honor.

### Faculty Notes

JULE G. CHARNEY, Professor of Meteorology, has received the Symons Gold Medal of the Royal Meteorological Society of Great Britain . . . *Henry M. Stommel*, Professor of Oceanography, has been elected to the National Academy of Sciences . . . *Lockhart B. Rogers*,

Professor of Chemistry, has been appointed to the advisory board of "Analytical Chemistry."

### Guggenheim Fellows

MEMBERS of the M.I.T. Faculty receiving Guggenheim Fellowships this year are *Louis N. Howard*, for studies in geophysical fluid dynamics; *Arthur K. Kerman*, '53, for studies in the theory of nuclear structure; *Francis E. Low*, for study of the interactions of elementary particles by application of quantum field theory; *Thomas H. D. Mahoney*, for studies of Edmund Burke and the American Revolution.

### Naval Operations Study

THE DIRECTOR of the M.I.T. Operations Evaluation Group, Dr. Jacinto Steinhardt, headed the United States delegation to a symposium at the Royal Naval College in Greenwich in April, at which naval requirements, tactics, and weapon systems for limited war were discussed.

Other representatives of the OEG present were Howard E. Higbie, Sidney K. Shear, and James K. Tyson, '41.

### Stouffer Fellows

Two M.I.T. graduate students, *Martin C. Anderson* and *Frank C. Colcord, Jr.*, will work in the Joint Center for Urban Studies of M.I.T. and Harvard next year on fellowships awarded to honor the late Professor Samuel Stouffer of Harvard. Mr. Anderson will study the role of private capital in urban renewal, and Mr. Colcord will study the politics of metropolitan transportation planning. Mr. Anderson is from Northboro, Mass., and Mr. Colcord from Long Island.

### Woodrow Wilson Fellows

CHAIRMAN of one of 15 regional committees helping the Woodrow Wilson National Fellowship Foundation find talented young folk for college teaching is Professor E. Neal Hartley of M.I.T. His region includes Maine, New Hampshire, Vermont, Massachusetts and Quebec, New Brunswick, Prince Edward Island, Nova Scotia, and Newfoundland. Last year his fellowship committee handled 906 nominations and interviewed 346 candidates, of whom 165 received fellowships.

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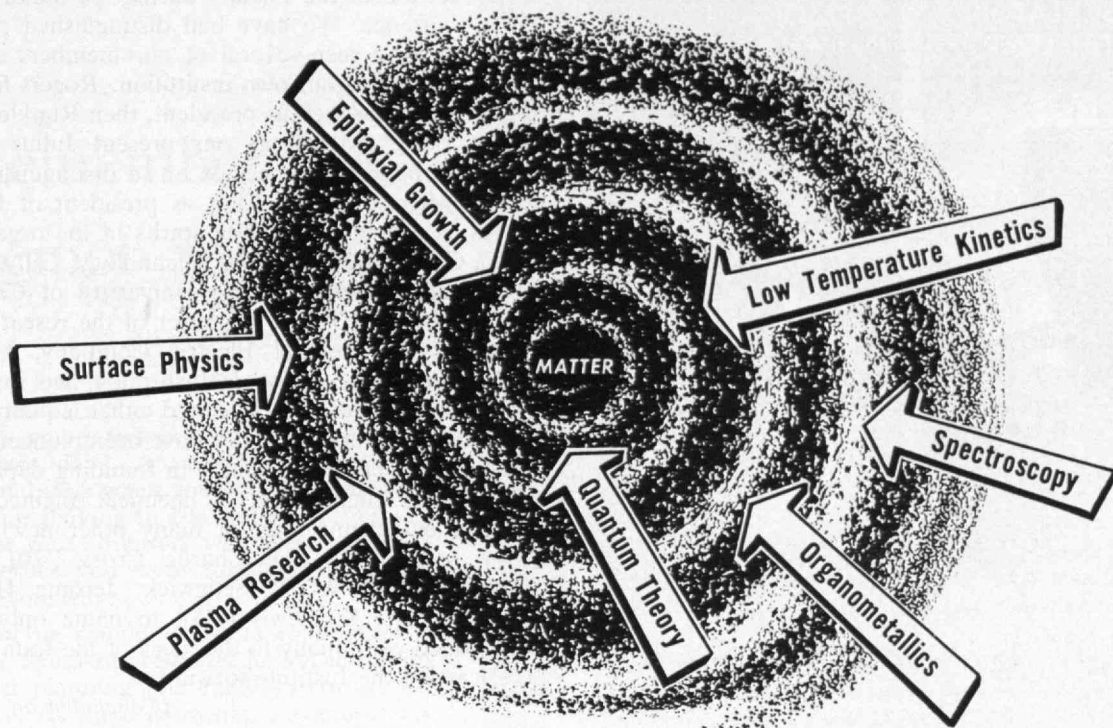
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Data Processing Research	NMR
High Temperature Measurements	Solid State Physics
High Pressure Physics	Magnetohydrodynamics
Logic Connectives	Adaptive Programming
Mathematical Circuit Synthesis	Microbiology
Mathematics	Microwave Optics
Pattern Recognition	Enzymology
Physical Chemistry	Upper Atmosphere Physics
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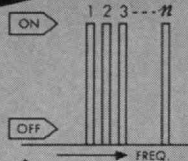
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## Centennial Greetings to M.I.T.

(Continued from page 36)

the idea and the personality of its founder, President Rogers, who understood just as clearly as we do the new vision of a university based on the laws of nature and on their application to the needs of man. But it is a product too of the Faculty during the hundred years of its existence. We have had distinguished predecessors. We have seen several of our members step into the presidency of our own institution: Rogers first, who was professor as well as president, then Runkle, Crafts, Noyes ['86], as well as our present Julius Stratton ['23]. We have had others go on to distinguished service elsewhere: Charles Eliot as president of Harvard, Noyes as one of the leading spirits in the organization of the California Institute of Technology, Gilbert Lewis as a leading chemist at the University of California, Willis Whitney ['90] as organizer of the research laboratory of the General Electric Company, Vannevar Bush ['16] at the Carnegie Institution and in government service. But we have had other equally distinguished innovators. . . . They have been pioneers in laboratory instruction in science, in founding departments of electrical engineering, of chemical engineering, of aeronautical engineering, of many other newly developing fields. Men like Charlie Cross ['70], R. H. Richards ['68], W. T. Sedgwick, Jerome Hunsaker ['12], and W. K. Lewis ['05], to name only a few, have added continually to the ideas of the founder, and have carried the Institute forward . . .

(Concluded on page 82)



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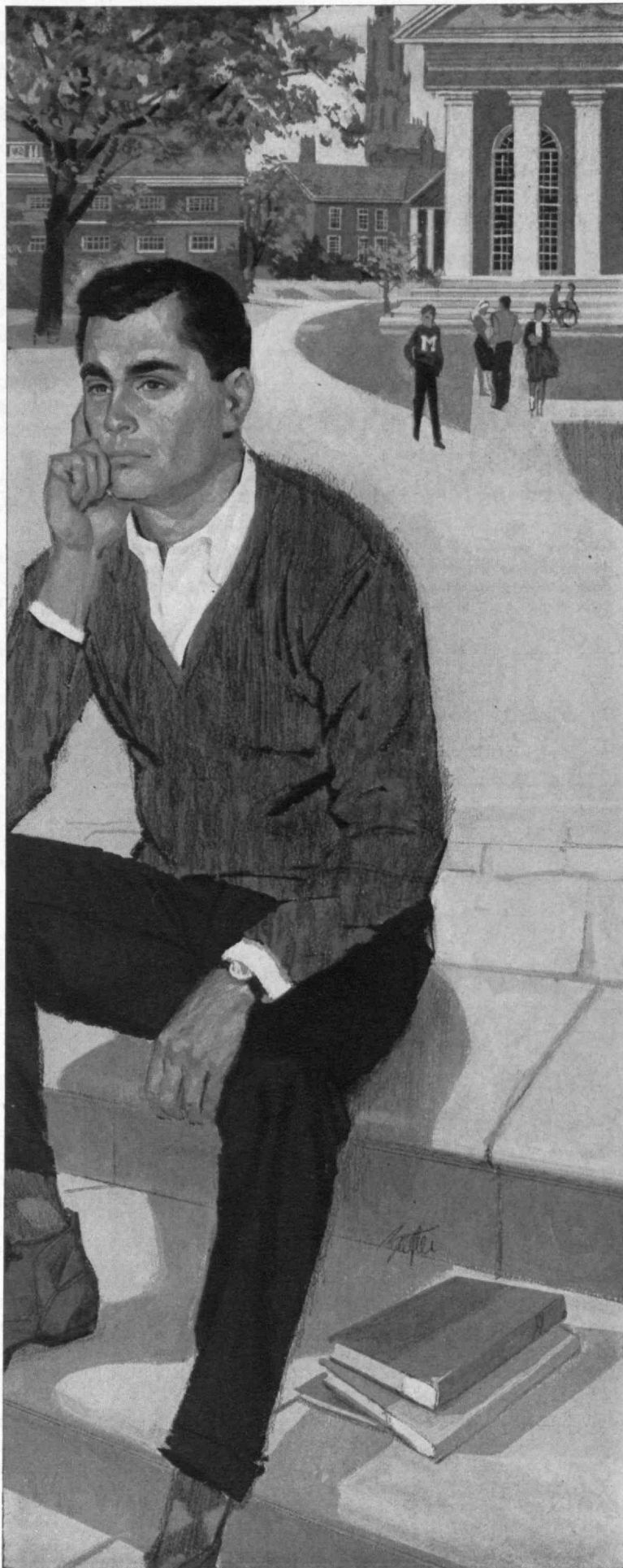
Each of us should continue to observe a solstice. Moments reserved for reflection on personal planning and family security, for instance. At these moments, a Connecticut Mutual Life man can help crystallize your planning. His experience can help measure your family's needs and plan for the fulfillment of your own and your family's goals. From a wide variety of policies and payment methods he will recommend an insurance plan ideally interwoven with your particular hopes. Take a few minutes to meet a CML man; he's a helpful man to talk with.

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## Centennial Greetings to M.I.T.

(Concluded from page 80)

*The Commonwealth of Massachusetts' greetings were conveyed by Governor John A. Volpe, who looked forward to continued reliance "on the creative genius of Tech in augmenting national security and in raising levels of living." Governor Volpe concluded:*

At Technology's two hundredth anniversary, the world's most powerful magnet, which the Institute is now constructing, will have been overtaken by mightier mechanisms of electrical force. But if the future Institute holds fast to its cherished ideals, which are elements of its present grandeur and greatness—then, a century hence—the Massachusetts Institute of Technology, itself, will continue to be the magnet that draws mankind's abiding trust.

*The American Universities' spokesman, Dr. Harlan Hatcher, President of the University of Michigan, said:*

We salute the Massachusetts Institute of Technology especially because it has demonstrated with highest distinction how financial support from all sources—personal, foundation, private gifts, fees, government grants and contracts—can be joined in one endeavor; how a select student body can be advanced naturally into new frontiers; how a superior faculty can combine teaching, research, and application; how a major scientific institute can achieve leadership by joining social studies and the humanities into a common culture with the field of science and the industrial and business world.

Furthermore, the impressive attainments of the Massachusetts Institute of Technology on the most advanced level is one of our best reminders that, while the pressure of high school graduates on freshman entrance is massive and growing, there is an equally urgent but less well recognized pressure at the upper levels. This portion of our educational need is very expensive by undergraduate standards. It is critical in the effort of our nation for survival and for human betterment on an interlocking world scale.

Not many of our institutions are prepared to meet this need. Those that can must serve the world. Massachusetts Institute of Technology is such an institution, and receives the thanks and homage of us all. On the success of its work hangs the hope of the future for a rich and rewarding life for mankind.

*And for the foreign universities, Professor John Fleetwood Baker of the University of Cambridge, hailed the Institute as an example for the world, in these words:*

The society of the present depends for its power and prosperity, its leisure and its morale on the application and engineering of science. As yet the impact of the technological revolution on the individual, on society, and on government is imperfectly understood. The time has not yet come when all statesmen of the world can be expected to be well grounded in science and engineering; until they can, the lead given in your country by the Institute in providing the independent scientific support of government could well be followed by other countries with benefit to the whole world.





**C. D. Grover, President  
MIT 1922**



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## PATRICK FITZPATRICK

83

# Institute Yesteryears

## 25 Years Ago . . .

ON JUNE 8, 1936, occurred the Institute's second Alumni Day on which, as observed by The Review editors, "Nature smiled, and, as though in gracious response, this new type of reunion, begun only last year, seemed to have reached maturity. In the solidity and importance of its serious events and in the gaiety, warmth, and good fellowship of its lighter program, Alumni Day, 1936, seemed an adequate fulfillment of the hopes of those who championed the plan. To last year's committee who laid the foundation under the direction of Hamilton L. Wood, '17, and to this year's committee who so happily brought the plan to fulfillment under the direction of Harold B. Richmond, '14, is due an accolade from all those who cherish the Technology spirit and who wish to see its vivifying influence extended throughout our alumni body."

In the morning there was a "Transportation Conference," presided over by J. Monroe Johnson, Assistant Secretary of Commerce, and participated in by four speakers as well as by Joseph B. Eastman, a member of the Interstate Commerce Commission.

Following luncheon in Du Pont Court, the new Sailing Pavilion was formally dedicated; and in the evening at Symphony Hall, 628 diners were present for the Alumni Association's 61st Annual Banquet.

¶ The following morning at Symphony Hall, commencement exercises marked the graduation of the Institute's 69th class. Of the total of 532 degrees awarded, 380 were bachelor's in the Class of 1936 and 152 went to candidates for advanced degrees, namely: 24 doctorates of philosophy and 17 of science, and 111 master's of science.

The academic procession was led by Alexander Macomber, '07, who had been the 35th President of the Alumni Association in 1928-1929; and next came President Karl T. Compton and the commencement speaker, Newton D. Baker, Secretary of War in the cabinet of Woodrow Wilson. At the head of the long procession of degree candidates marched John C. Austin, President of the Class of 1936, and its three elected marshals: Brenton W. Lowe, Fletcher P. Thornton, Jr., and Anton E. Hittl.

¶ Godfrey L. Cabot, '81, and William C. Potter, '97, were elected to life membership by the Institute Corporation at its June meeting.

¶ The Institute mourned the passing on June 3 of Arthur Amos Noyes, '86, who was its Acting President during 1907-1909, between the Pritchett and MacLaurin administrations; and who served as the 18th President of the Alumni Association in 1911.

Dr. Noyes joined the Institute staff upon graduation and, in 1899, was appointed professor of theoretical chemistry. In 1903 he founded, and for 17 years headed, the Research Laboratory of Physical Chemistry, which was the first research laboratory of M.I.T., and also the first in the United States to be devoted to physical chemistry.

## 50 Years Ago . . .

ON JUNE 5, 1911, President Richard C. Maclaurin was being congratulated upon the occasion of his 41st birthday.

¶ On June 6, at Huntington Hall in the Rogers Building on Boylston Street, there took place the commencement exercises of the Institute's 44th class. Of the total of 254 degrees awarded, 232 were bachelor's in the Class of 1911, and 20 were master's of science. There were also two doctorates: the first Ph.D. in Biology, to Eugene C. Howe, '11; and the first Sc.D. given by M.I.T., in Electrical Engineering, to Reginald L. Jones, '09.

¶ Mounting public interest in the Institute's proposed removal from Copley Square prompted the Boston *Evening Transcript* to note that there were "four sites under consideration, for each of which considerable favor is shown, as follows:

"In the Fenway, a large strip at the corner of Longwood Avenue and Avenue Louis Pasteur, opposite one side of the Harvard Medical School grounds and conveniently near other educational institutions, the Art Museum, hospitals, and where the Y.M.C.A. building is to be located;

"On the Charles River Basin at the corner of the Esplanade and Massachusetts Avenue, opposite Riverbank Court;

"The Allston Golf Club grounds, between Commonwealth Avenue and the Boston and Albany Railroad in Allston; and

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(Concluded on page 86)

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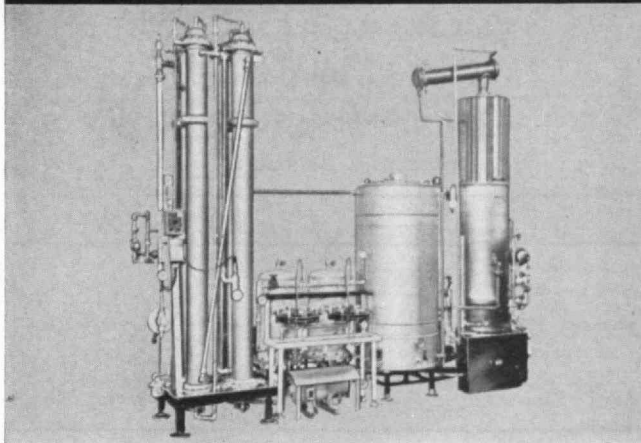
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## Institute Yesteryears

(Concluded from page 84)

ton Street, extending up the hill to Centre Street and South Huntington Avenue.

"There are 55 trustees of the Institute and they are pretty evenly divided over the good points of these sites. The division, in fact, is so close that it was said by a man who is thoroughly in touch with the facts, very recently, that should a vote be taken now it is likely that no decision would be reached."

## 75 Years Ago . . .

AS RECORDED in the Annual Report of President Francis Amasa Walker, "The Class of 1886 graduated on the 1st of June. Of the 62 students of the fourth year, who were candidates for the degree of bachelor of science, 59 were admitted to that grade, upon recommendation of the Faculty of the School of Industrial Science.

"The public exercises of the day were after the severe and simple form set by the first President of the Institute. The class thus graduating was one of exceptional strength of character and thoroughness of scholarship. There could be no higher example of what this school aims to effect than is afforded by the graduating theses of the Class of 1886, taken in connection with the records of its members during the four years of their stay among us."

Of the 59 degree recipients of the Institute's 19th class, 23, or 39 per cent, were graduated in mechanical engineering. The remaining 36 were divided by Course as follows: electrical engineering, 10; civil engineering, 9; mining engineering, 7; chemistry, 7; and architecture, biology, and general science, one apiece.

## 93 Years Ago . . .

IN JUNE, 1868, 13 members of the Institute's first class were graduated—one in mechanical engineering, five in civil and topographical engineering, six in geology and mining engineering, and one in science and literature. The form of their diplomas stated that each was a "Graduate of the Massachusetts Institute of Technology in the Department of . . . . ."; for not until three years later, was the designation "Bachelor of Science" adopted.

These fortunate 13 of the Class of 1868 were not subjected to formal commencement exercises; they obtained their diplomas simply by calling individually at the Institute office.

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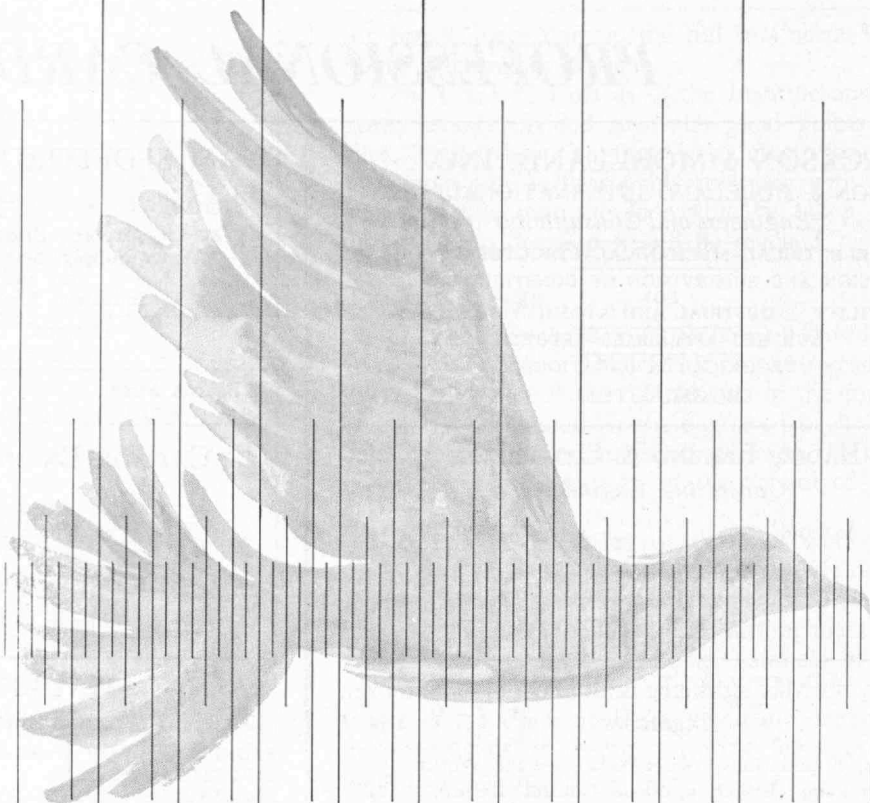
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## Club Notes

### Two Films and Discussion Draw Large Crowd in L.A.

The M.I.T. Club of Southern California had one of its most successful smokers in years on March 30, with a wonderful turnout for two excellent films and a panel to conduct a discussion on them. The affair was held at the Institute of the Aeronautical Sciences. Over 125 Alumni and friends saw "The Thinking Machine" and "From Strength to Greater Strength." The panel was composed of Norman Glynn, Assistant Manager, L.B.M. Corporation, Los Angeles; Richard M. Greene, Psychologist and Research Engineer, Operations Research Inc.; Robert B. McGhee, lecturer in Engineering, University of Southern California; and John Postley, Director of Information Systems, Advanced Information Systems Company, lecturer at U.C.L.A., and author of "Computers and People." These four speakers made a tremendous success in discussing "The Thinking Machine" and its ramifications. The group was also very interested in the descriptive pictures of M.I.T. today in the film "From Strength to Greater Strength."—Albert A. Levingston '49, Secretary, 3850 Wilshire Boulevard, Los Angeles 5, Calif.

### Boston Stein Club Hears M.I.T. Professor Pool

The Boston Stein Club held a Founders Dinner Meeting at the M.I.T. Faculty Club in Cambridge, April 25. Speaker of the evening was Professor Ithiel deSola Pool, chairman of the Political Science Section, Department of Economics and Social Science, M.I.T. Dr. Pool spoke on "Simulating Public Opinion." This was a much appreciated opportunity to hear the outstanding authority on an exciting new science of forecasting public opinion.—Norman R. Gardner '53, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

### Kansas City Club Hears SCF Progress Reports

The M.I.T. Club of Kansas City mixed business with pleasure on March 20. The nation-wide progress report on the Second Century Fund provided an excellent opportunity to gather the local group together. The wives of several members were able to attend.

All were interested to hear the progress already made, nationally as well as locally. The local telephonic report was made by Fred Dierks '12, who was able to report that the campaign in this area was some 28 per cent along, and just beginning to accelerate. Several new faces were at this conclave, a gratifying sign.—Beverly J. Kirkwood '49, Secretary, 4308 West 79th Street, Prairie Village, Kansas.

### H. Guyford Stever Speaks at Rochester Dinner

Approximately 170 Alumni and wives attended the Centennial dinner in the Manger Hotel on March 16. The occasion commemorated the 100th anniversary of M.I.T. and also served as the beginning of the general solicitation campaign for the Second Century Fund. Dr. H. Guyford Stever, M.I.T. Professor of Aeronautics and Astronautics, and Greg Smith '30 gave the principal addresses. Leo Cravitz '44 headed the dinner committee, and Jack Artz '40 made the excellent arrangements.

The major spring effort of the club is being devoted to the Second Century Fund drive. Howie Samuels '41 is the General Chairman for the Rochester area. Chairman of the major gifts phase is Fred Kolb '38; chairman of the general solicitation is Charlie Payne '33. About 80 other club members are actively involved in helping with the drive.—John D. O'Brien '51, Secretary, 250 Chelmsford Road, Rochester, N.Y.

### New York Club Plans Tour of Europe

Plans are being made by the New York Club for a tour of Europe via Irish Air Lines Boeing 707. The tour, costing \$800, will include visits to London, Holland, Germany, Switzerland, Italy, the Riviera, and Paris. George Ropes '33 reports that members will leave New York for London on Saturday, September 16, returning on Saturday, October 7, from Paris. The tour is also available to immediate members of the family.

Details concerning disability insurance reached New York members in April, reports Charles H. Martin '32. The proposed plan would provide an income for members to the age of 65 for disability due to sickness or for life if disability is caused by an accident. Rates will range from \$82.50 to \$165 a year.

An initial investment club (referred to in earlier columns) was considering applications (as of April 10) from a few more members of the New York M.I.T. Club. At the first meeting of the group Don Seibert '48 described the Molecular Circuitry field; Robert Cotton '39 discussed Food Technology; Rodney D. Chipp '33 spoke on the general growth area of electronics; and Ray Frankel '43 gave a talk on Memory Devices. At the second meeting, Rod Chipp made a presentation on Undersea Developments. He was followed by Don Seibert, who discussed Space Propulsion, and Ragnar D. Naess '23, who described the latest advances in Financial Analysis. On April 24, at the third meeting, Ray Frankel reports that the investment agreement was finalized. David Springsteen '54 served as chairman of the committee to draw up the agreement.

The Annual Meeting in New York was held Monday, May 15. The Nominating Committee included: Ed Edgar '35, Chairman, Dave Broudy '22, Thomas D'Arcy Brophy '16, Oliver Hoag '35, and David Springsteen '54.—James M. Margolis '52, Secretary, 5 Fenton Street, Rye, N.Y.

## Sloan Fellows

The following changes of assignment for Sloan Fellow Alumni have been received: **Philip E. Hogan**, '54, has been named engineer of manufacture for the Hawthorne, Ill., works of the Western Electric Company, effective April 1. . . . **John A. Krollicki**, '54, is now manager, Chassis Processing, Manufacturing and Plant Engineering Department, Transmission and Chassis Division, Ford Motor Company. . . . **Pedro Sanches Mejorada**, '55, has become Chief Geologist, Cia. Minera de Penoles, S.A. . . . **William J. Stolze**, '60, has formed and been elected president of a new company, RF Communications Associates, Inc., engaging in the development and manufacture of electronics communications equipment.—**John M. Wynne**, Room 52-455, M.I.T., Cambridge, Mass.

### Deaths

HIRAM B. HARTWELL '96, March 10\*  
ABRAM FRENCH '98, March 4\*  
KENNETH LOCKETT '02, Jan. 20\*  
ALVAH W. DODGE '03, March 1\*  
E. WINCHESTER HOWELL '03, Sept. 21\*  
NORMAN M. CHIVERS '05, March 9\*  
HARRY GALLUP '05, March 14\*  
HARRY L. LEWENBERG '06, March, 1961\*  
KNIGHT W. WHEELER '06, Feb. 10\*  
CLIFFORD ALLBRIGHT '07, Jan. 6\*  
HAROLD S. DUNCAN '07, March 16\*  
DAN A. LOOMIS '07, Feb. 22\*  
JAMES MCGOWAN '08, March 15\*  
XANTHUS R. SMITH '09, March 8\*  
FREDERICK A. GODLEY '10, Feb. 21\*  
EARLE E. ROOT '10, Jan. 22\*  
EARL S. RUSSELL '10, March 1\*  
ROBERT T. HASLAM '11, April 4\*  
ROBERT H. MATHER '11, April 6\*  
CLARENCE A. J. BIRNBAUM '15, Oct. 6  
ARTHUR K. JOHNSON '17, Jan. 20\*  
LUTHER S. PHILLIPS '17, Dec. 24\*  
HAROLD F. POWERS '17, March 17\*  
WILLIAM M. B. LORD '18, March 9  
L. FRANKLIN VANZELM '18, March 24\*  
EDWARD M. BRICKETT '20, April 16  
JACK H. WAGGONER '21, Feb. 21\*  
GEORGE B. PEASE '23, Jan. 8\*  
ARTHUR E. KUNBERGER '25, Jan. 25\*  
DWIGHT H. MARSH '25, April 20  
LESLIE A. KNISKERN '27, March 19\*  
J. ELWOOD TWEEDDALE '27, Nov. 21\*  
JOHN A. MACLAUGHLIN '28, March 18\*  
EDGAR P. TAYLOR '28, March 18\*  
ROBERT R. MOFFAT '31, Dec. 17  
FRANKLIN K. KOERNER '33, Feb. 23, 1960  
A. PAUL BENCKS, JR. '34, Feb. 25  
JOSEPH KAYE '34, March 20\*  
DANIEL M. LEWIS, JR. '34, March 21  
FREDERICK W. LOOK '41, no date given\*  
JOHN T. REMICK '41, March 21\*  
GEORGE H. MARINGAS '48, Feb. 16\*  
THOMAS F. OSTIN '53, March 2

\* Further information in Class Notes

# Class Notes

## '95

Reservations have been made for our annual meeting to be held on Monday, June 13, at the time of the M.I.T. Alumni Luncheon in the Great Court on the Charles River Memorial Drive. If you have made no reply but find you can make it, come just the same and we will make a place for you with us.

Ninety-five has been in the limelight again and again thanks to our President **Al Sloan's** interest in the M.I.T. \$66,000,-000 Second Century Fund Drive, and in the April Centennial Celebration meetings of the world's leaders in science education. . . . At a Centennial breakfast in honor of Alfred P. Sloan, Jr., Honorary Chairman of the S.C.F. and of General Motors Corporation, which was held Sunday, April 9, at the Statler-Hilton Hotel, 700 Alumni and friends representing 7,000 fund workers heard it announced that already the amount collected and pledged was over \$34,000,000.—**Andrew D. Fuller**, Assistant Secretary, 120 Tremont Street, Boston, Mass.; **Luther K. Yoder**, Secretary, 69 Pleasant Street, Ayer, Mass.

## '96

**Joe Clary** writes that half of those in his course are listed in the addresses of the living members of the class, including **Walter Leland**, who did not follow Naval Architecture. He misses not driving a car, and limits his travels to occasional trips to see his children and a summer trip to the mountains. Joe may have anticipated retirement, as did several of us, as free sailing time but we find ourselves moored with very limited scope. . . . Word has come from the Alumni Association that **Hiram B. Hartwell**, who was with us as a freshman, died on March 10, 1961. . . . **Albert Ruckgaber** acknowledges the receipt of the list of members as of March 1. He thinks that he and his 51 classmates have done pretty well to reach his age of 86. He forgot that the Assistant Secretary was under age.

As part of the Centennial celebration, an Alumni Dinner for 1920 and earlier was held at the Faculty Club. The '91-'99 sign was at the end of a long table. The Class of '91 had one member and son; '96 had one member and daughter; '98 had two and '99 had five members. The address of the speaker at the dinner for Distinguished Persons at the Statler had been taped and was run off for us before its oral delivery in person. The final meeting on Sunday was heightened by the parade of notables in science in their

many colored caps and gowns and included an address by a Senior, Joseph Harrington, 3rd, representing the students. His father was of the Class of 1930 and his grandfather of the Class of 1896. A newspaper quoted his speech: "It is on profound occasions such as this one that we regain our perspective and see ourselves as one small segment of a great procession. It's a parade of all the students, all the teachers and all the other leaders who have passed through these portals and who call this institution their own." The class extended to Joe III their congratulations on his excellent appearance and address. A brief note was sent to Mrs. **Rockwell**, signed by the secretary, as our class recalled John's devotion to M.I.T. as we attended the principal meetings in the Rockwell Cage.—**James M. Driscoll**, Secretary, 129 Walnut Street, Brookline, Mass.; **Henry R. Hedge**, Assistant Secretary, 105 Rockwood Street, Brookline, Mass.

## '97

Alumni Day is upon us and it is important that we have a good turnout, for we should elect a Class Secretary, an Assistant Secretary, and discuss plans for our 65th Anniversary in June, 1962. The luncheon in the Great Court would seem to be the best time to accomplish these matters.

We wonder how many of the class attended any of the sessions of the Centennial Celebration. We would appreciate letters from those who did, giving their personal impressions so that, for the benefit of those who were unable to attend, they could be reported in future Class Notes. It was an outstanding and impressive occasion, and the large attendance of foreign scientists and dignitaries

## Birthday Greetings

We wish a very happy birthday to the three Alumni who will be 90 years old in June and to the six and nine who will celebrate 85th and 80th birthdays this month. These honored Alumni are listed below with dates of birth.

June, 1871—**HARRY M. LATHAM** '93, on the 2nd; **FRED C. BAKER** '94, on the 15th; and **LEONARD P. WOOD** '01, on the 17th.

June, 1876—**HENRY F. LEAVITT** '99, on the 8th; **ALBERTO P. GONZALEZ** '01, on the 10th; **FREDERICK A. HUNNEWELL** '97, on the 12th; **EDWIN P. OSGOOD** '97 on the 19th; **IRENEE DUPONT** '97, on the 21st; and **GILBERT H. PRATT** '97, on the 30th.

June, 1881—**HERBERT M. MORLEY** '03, on the 1st; **A. WARREN WELLS** '05, on the 3rd; **GEORGE T. PARASCHOS** '02, on the 11th; **GEORGE A. CURTIS** '04, and **JOHN V. RATHBONE** '04, on the 17th; **HOWARD S. MORSE** '03, on the 21st; **GEORGE M. TOMPSON** '04, on the 25th; and **EMMET DWYER** '05, and **ELLSWORTH SPERRY** '06, on the 30th.

from all over the world as well as from the U.S. was a well-deserved tribute to our alma mater. We were fortunate to obtain two tickets in the reserved seat section for the Macmillan address, but when we learned that we could watch the proceedings from the comfort of our home on our wonderful TV on Channel 2, and hear and see more in this manner, we decided it was the part of wisdom for the elderly to avoid the difficulties of transportation, parking, and large crowds. While the banquet Saturday night had an appeal, since only foreign visitors, important guests and "brass hats" from M.I.T. were invited to the Statler Hotel, and "run-of-the-mill" Alumni must, of necessity, be shunted off to overflow locations, it lost its charm. The convocation on Sunday was also on TV and was truly impressive, as were several panel discussions. How fortunate we are to have educational television in this area.

In January I had a postal card from **Bill Binley**, who spent the winter in France. Please, Bill, share your experiences there with your classmates in these Class Notes by writing me a letter describing your extended visit in "La Belle France." . . . Do wake up, you old fellows, and become articulate!—**John P. Hsley**, Treasurer, 26 Columbine Road, Milton 89, Mass.

## '98

Your two secretaries occasionally lunch with the M.I.T. Boston Luncheon Club at the Union Oyster House at 41 Union Street in downtown Boston. These are monthly affairs at which a prominent professional or business man is booked to give a half hour talk on some subject of timely interest. On last February 16, we had as our speaker Dr. John B. Wilbur, '26, retired head of the M.I.T. Department of Civil and Sanitary Engineering, who spoke of the new approach to engineering education which is about to be embodied in the civil engineering curriculum at M.I.T. New technological problems have been and are continuing to face us. Population is increasing at a pace so rapid the human race is being menaced. Forests are being cut down to provide sites for new villages, roads and other developments, thus decreasing areas available for cultivation; ground is being denuded; air is polluted by poison, such as radio-active wastes, gases from factories, vehicles and other forms of combustion which cause smog conditions; water is polluted by factories and industrial plants which of necessity often locate near rivers. Dr. Wilbur believes the study and solution of these problems must be handled by the engineer. These problems are so numerous the engineer cannot now become too specialized. He must be better informed about science and therefore many of the former preliminary first grade subjects such as land surveying, will have to be curtailed or eliminated entirely, leaving them to other institutions. The engineer of tomorrow, graduated from M.I.T. or other technical schools, must be fitted to broadly handle,

advise and work out the solution of these problems vital to the well-being and even to the existence of humanity.

To date we have had no reply to our inquiry in the '98 notes of May as to whether any one of the class besides **LeRoy Byam** was born on a February 29. LeRoy has written to our president, Dan, confirming his age of 20 years, but is uncertain if his birthday in non-leap years should be February 28 or March 1. In the same letter he gives some personal information. He was with the N.Y.C.R.R. from graduation until 1911 when he supervised, as his last job, the company forces in the electrification from New York to Harlem on the main line and to White Plains on the Harlem. He then entered the engineering and contracting field specializing in the construction of large private houses costing anywhere from \$250,000 to \$1,000,000. In World War I, as a Major of Engineers, he had charge of constructing the 3rd Aviation Instruction Center at Issoudon, France. "Never heard a gun fired during the war." He retired from the engineering and contracting business in 1948 and since then has been amusing himself during summers cruising in Long Island Sound on his 45-foot "Elco" Victory III until recently when he sold her because of his poor eye-sight. . . . We would be glad to receive similar letters from others telling of their past and present activities. Such letters bring us closer together as a class.

We regret the passing of our classmate **Abram French**, who died suddenly at his home in Bath, Pa., on March 4, 1961. He would have been 85 on April 10 of this year. His early home was in Dedham, Mass., and while living there, he completed three years in Course I at M.I.T. In 1900 he went to Swampscott as an engineer and, in 1913, into the general contracting business there for himself and from which he retired in 1956. A year later he, with his wife and daughter Isabelle, moved into the new house in Bath, the construction of which was supervised by Isabelle. Isabelle herself did considerable of the manual labor involved with Abram modestly admitting he helped a little with the heavy work. Surviving are his wife, Grace, and daughter, Isabelle, of Bath; a married daughter, Ruth, of Seattle; an older sister, Isabel, of Norwood; and three grandchildren. Abram always liked a good story. His wife tells us one of his pet stories of how he substituted for someone at a certain settlement house lecture that our classmate, **Roger Babson**, was sponsoring. The subject was Electricity and Abram made a good talk but when the time came for questions, the bluff did not work out so well.—**Frederic A. Jones**, Assistant Secretary, 286 Chestnut Hill Ave., Brighton 35, Mass., **Edward S. Chapin**, Secretary, 2 Gregory St., Marblehead, Mass.

'99

The efficient arrangements for the Centennial Celebration were much enjoyed by the five members of '99 who were

present. Our Class Representative, Dr. **Miles S. Sherrill**, Professor Emeritus, marched in the brilliant academic procession. From California came **Etheredge Walker**, a son of General Francis A. Walker whose wisdom gave inspiration to our early years at Tech. **William A. Kinsman**, President, and **Hervey J. Skinner** renewed old times at the dinner. **Percy W. Witherell** managed to take in all the functions and was thrilled to participate in a small way in the modern "life" at M.I.T. . . . We urge you to come to Alumni Day, June 12. It will be a worthwhile effort to see the modern Technology and hear about the wonderful things it is doing to make the world a better place in which to live.

As stated in a previous issue of The Review, your secretary underwent major abdominal surgery in September. Recovery was uneventful but slow, or so it seemed. Meanwhile the Assistant Secretary took over in his usual efficient manner. The only occurrence worth mentioning during hospitalization was that on a series of early mornings, when the patient was in that happy valley of semi-consciousness between sleeping and waking, the thermostat failed to operate, with the result that the feeling came over him that he had reached his final destination and had gone in the wrong direction. While convalescing, I was glad to be visited twice by **Miles Sherrill** and **Hervey Skinner** and to receive a letter from **Tim Kinsman**. Complete recovery has been made, except for the fact that my legs, which have carried me so many hundred thousands of miles, from the Atlantic to the Pacific, and from Winnipeg to Mexico City, no longer respond to motive directions. The result is that at the time this is written (the first week in April) I am attending none of the functions of Centennial week at M.I.T., and probably shall not be able to attend festivities on Alumni Day.—**Burt R. Rickards**, Secretary, 349 West Emerson Street, Melrose 76, Mass.; **Percy W. Witherell**, Assistant Secretary, 84 Prince Street, Jamaica Plain, Mass.

'00

**Paul Price** has written as follows: "This (March 14) is my 85th birthday. I am celebrating alone. My family is scattered so far apart that it didn't seem feasible to do otherwise. My daughter, Elinor, was with us at one of the 1900 Reunions on the Cape. Her husband, Floyd Allen, has been in the Veteran's Hospital in Albany since December and is slated for several weeks more on account of an injury he received in Germany in World War II. I thought I would get up to the M.I.T. Reunion this year but it looks doubtful now. I am living alone in the 10-room home that we have been in for 40 years. I am retired and am cleaning and repairing the house and furnishings in preparation for disposing of them. At present I have made no decision as to just what I will do. That will depend a good deal on developments in the rest of the family. Just now

I am keeping busy here and in the church and sing in a University Men's Glee Club of about 60 members, rehearsing on Tuesdays and putting on four concerts a year. Also I bowl on Monday nights (three games) on the alleys in the basement of the Methodist Parish House two blocks from here." Paul was a graduate of Simpson College with a Ph.M. degree before coming to M.I.T. He was with us for three years and graduated in architecture. He then returned to M.I.T. receiving an M.S. degree in 1901. We gave some description of his career in these notes in December 1960. . . . **Stanley Fitch** arrived home from his latest trip to Central America just in time to attend the Centennial Celebration. This was also attended by **Percy Ziegler**, **Alek Newhall** and the Secretary.—**Elbert G. Allen**, Secretary, 11 Richfield Road, West Newton, Mass.

'01

The Reunion will soon be a thing of the past. I hope that a good number will be present as it is probably the last real reunion that the class will experience. . . . You have done very well in sending in information for the notes. Up to April 1, I have received 20 replies. I will try to give a little news from a few classmates. . . . **Anthony Peters**, I, Westwood, Mass., says that he and his wife are well and hopes that conditions will allow him to attend the reunion. . . . **Charlie Tufts**, X, New York, has no news except to tell of infirmities which, he says, would not be news. . . . **Willard Dow**, IX, Cohasset, Mass., was marooned for four days by the snow. He is still playing squash.

**Robert Derby**, I and II, Williamstown, Mass., took one of his annual trips last October and November. He went to South America and South Africa, visiting the Union of South Africa and the districts to the north along the West Coast including Kenya. He flew north from Capetown, visiting Johannesburg and Pretoria, then flew to Victoria Falls in Southern Rhodesia. Later he flew from Zanzibar to Nairobi in Kenya. I imagine that there are not many spots on the earth's surface that Bob has not seen. . . . As I mentioned above, I now (in April) have 20 replies to the Class Letter. I should have 20 more. Keep them coming in.—**Theodore H. Taft**, Secretary, Box 124, Jaffrey, N.H.

'02

The following letter has been received from Harold Lockett '10:

"I regret to inform you that my brother, **Kenneth Lockett**, M.I.T. 1902, died on January 20. Ken had been living in Dixon, Ill., for about 10 years, working as a highway engineer for the State of Illinois. He had been in ill health for several years but had been able to keep working until the early part of 1959, when his health forced him to retire.



Last Christmas I had a letter telling me that his doctor had just told him that his general condition was better than it had been for a long time. The next thing I heard was that Ken had fallen, going down three steps into his oculist's office and broken his hip. Although he seemed to be doing nicely for three or four days it must have been a bad shock because he passed away one night, just about 10 day after his fall. He had had his 80th birthday in October 1960." The greater part of Lockett's years of activity were centered in the Chicago area where he was associated first with his father's firm, Orr & Lockett Hardware Company, industrial hardware dealers, and later with closely allied businesses. He was an enthusiastic alumnus of M.I.T. and in 1915 was head of the Northwestern Association of M.I.T. Alumni. In class affairs he was active likewise and served as class vice-president for the Chicago area for over 20 successive years. . . . The only representatives of our class at the recent Centennial Celebration were **Arthur Collier**, Mrs. Collier, and **Dan Patch**, so far as known.—**Burton G. Philbrick**, Secretary, 18 Ocean Avenue, Salem, Mass.

## '03

**Alvah W. Dodge**, VI, passed away on March 6 at the age of 81 from a heart attack, though he had been ailing only since the first of the year. Al spent the years since graduation from the Institute with the General Electric Company of Lynn, Mass., formerly the (Elihu) Thompson Houston Company of West Lynn. He was born in Somerville, studied at Somerville High School, and spent 60 years in Lynn. He started as assistant to the Production Manager and later had charge of all motor and transformer departments. He was a member of the Thompson Quarter Century Club; the Golden Fleece Lodge of Masons, Lynn; Scottish Rite Masons; and Aleppo Temple Shrine, Boston. He was also a member of the Bay Shore Lodge of Odd Fellows, Lynn; and the Men's Club of the Broadway Methodist Church. Besides his wife he leaves a daughter, Mrs. Charlotte D. Gifford of Saugus; a sister, Mrs. Walter Chapman of Washington; two grandchildren, two nieces and one nephew.

**E. Winchester Howell**, I, passed away on September 21 in Wycoff, N.J. Much of his life was spent as sales manager for the Continental Paper Company of Bogota, N.J. . . . **Mrs. George H. Noone** (Ava Marcella Stoddard), IX, after a busy career is now enjoying retirement at 33 High Bluff Road, Cape Elizabeth, Maine. . . . **William C. Twieg**, V, is still enjoying retirement after a busy period of teaching Chemistry at the North High School at Denver, Colo. His address is 1814 Detroit Street.

Between March and June, 10 classmates celebrated 80th birthdays. This glowing record foreshadows a promising 60th Reunion, at which time we can renew old memories about Rogers. . . . Our reminiscent note for this issue por-

trays Professor Cross saying to students who manifested their approbation by shuffling their feet: "A little more activity at the other extremity, gentlemen, might tend to develop it proportionately."

Those of our classmates who were unable to attend the stupendous Centennial celebration of M.I.T. during the week of April 3, can only dimly visualize its beauty and scope of interest. The published brochures we received, so beautifully illustrated, renew vivid memories of the past and hint of undreamed of future accomplishments for M.I.T. The presence of scientists of the whole world in conference, and their vivid elucidation of vital present-day problems at the panel discussions, were most absorbing to the overflowing audiences.

In retrospect, what a weird transformation from our former days at the Boylston Street sanctuary, when on schedule we arrived, dressed in our neat tight-fitting blue Army drill suits, adorned by the Civil War type of cap with the flat visor, and prepared to march and counter march at the Irvington Street Armory. How proudly we approached the wall racks holding our assigned belts, attached the bayonets to our heavy Civil War rifles and took our places in line for the orderly commands of our officers. . . . Our present day alacrity is now much abated, yet with renewed former esprit, we should strive to be present at Alumni Day, June 12.—**John J. A. Nolan**, Secretary, 13 Linden Avenue, Somerville, Mass.; **Augustus H. Eustis**, Treasurer, 131 State Street, Boston, Mass.

## '04

The Alumni Fund recently released some statistics showing the standing for 1960 of all the classes as of March 1. By the time you read this the record may have changed, but there it was in cold type with 1904 standing No. 2 in percentage of active members contributing. The figure was only 40 per cent so perhaps we shouldn't feel too proud but at least we were better than all but 1911, the current 50-year class. Our class agent **Gus Bouscaren** is entitled to take a bow. . . . These notes are being written at the close of the centennial festivities which were rated as a great success. Perhaps several of you were there but the only one we saw was Mrs. **Katherine Dexter McCormick** attending the Sunday afternoon convocation. . . . If you read these notes before Alumni Day in June, try to attend at least the luncheon where a whole or part of a table will be reserved for us.

We have one obituary to report and this will sadden a lot of you. Our president, **Currier Lang** lost his wife Carolyn on March 18. She was one of the small group of wives who were present at our 45th reunion and was the life of the party. As chairman of the women's committee for our 50th reunion she did a highly competent job and was among the wives present at our 55th. Also she and Currier were usually present at M.I.T. on Alumni Day. Carolyn was a very friendly

person and will be greatly missed. Our sympathy goes in full measure to Currier, his children and grandchildren.—**Carle R. Hayward**, Secretary, Room 35-304, M.I.T., Cambridge; **Eugene H. Russell, Jr.**, Treasurer, 82 Devonshire Street, Boston, Mass.

## '05

Of course, the most important event since last writing was the 100th Anniversary Celebration at Cambridge April 5 to 9. As usual '05 had a splendid turnout: **Bob McLean**, **Harry Charlesworth**, **Hub Kenway**, **Charlie Smart**, **Art Balkam**, the **Babcocks**, **Helperns**, **Nyes** and **Ruth** and I. The **Chestermans** were present in absentia. Frank was an official delegate and was occupied in greeting presidents of other universities, foreign guests, etc. When I received my tickets for the banquet at the Faculty Club at 5:30 P.M., there was also a schedule of arrangements stating that I was a member of the committee on last-minute details, said committee to meet at 2:00 P.M. same day for assignments. Things seemed to go along pretty well regardless. We had a jolly time at our table. **Charlie Smart** had quite a story to tell in regard to preparation for his book on ancient surveying instruments (book to be published when, Charlie?). **Art Balkam** brought me up to date on **Harry Nelson** (officially '06), who by the way is in a nursing home in Concord, N. H. **Myron Helpern** talked proudly (and rightfully) about grandchildren. **Harry Charlesworth** talked about moving part of his farm at West Newbury, Mass., to his daughter's home on Cape Cod. And **Bob McLean** talked about his operations. I tried to get the consensus of opinion as to a 57th reunion. Nobody had any big ideas, and it was evident that all would prefer that we make an effort again to have the biggest (quantity and quality) turnout at the Alumni Day Luncheon, June 12.

I had a letter from **Dick Senger**, III, asking for the address of a classmate, in which he said, "I'm limping, but otherwise active for an old man. Hope to get back East next Fall." . . . A letter from **Andy Fisher** brings us up to date on his progeny. A grandson (Edith's son) has been accepted at Exeter, expects he is headed for Princeton. Anne has a daughter in Radcliffe and another graduating in June from George Washington. Andy 3rd has two boys in Albany Academy, Andy 4th "is editor of his school paper and president of the Unitarian Youth group in Albany (N.Y.). Can you beat that?" No, Andy, I can't. I never even had a Jr. . . . **Hub Kenway** tells me that George Bayard Jones' daughter Mrs. Margaret Macallister visited them recently in Newton. Her husband is with the Liberty Mutual in Hopkinton, Mass. They reside in Wellesley.

The rest of the news has to do with obituaries. The death of **Frank W. Brownell** was reported in the last issue. I quote from the Winnipeg paper. "On March 6, 1961, in the Misericordia Hospital, Frank Wilbur, beloved husband of

Marie E. Brownell died in his 79th year. Born in Northport, Nova Scotia, he came to Winnipeg in 1908. He joined the Manitoba Telephone System, retiring in 1948 as general plant manager and assistant general manager after 41 years of service. He graduated from Mount Allison University in 1901 with his B.A. degree, and continued his studies at the Massachusetts Institute of Technology in Boston, receiving a degree of B.Sc. in Electrical Engineering in 1905. Mr. Brownell was a life member of Ionic Lodge No. 25 A.F. and A.M. He was master of Seven Oaks Lodge No. 148 in 1937, and was D.D.G.M. of the 10th District in 1940-41. He received his 50-year jewel in 1953. From 1916 to 1918 he was first principal of Prince Rupert Chapter and Treasurer of the Chapter since 1931. He was grand first principal of Grand Chapter of the Royal Arch Masons in 1926, Grand Scribe E. in 1927, and Grand Treasurer from 1932. In 1929 he was elected Potentate of Khartum Temple. He was a life member of King Edward Preceptory No. 24, the Winnipeg Lodge of Perfection, and of Manitoba Chapter 50 Telephone Pioneers of America. Surviving besides his wife are two sisters, Mrs. H. Jodrey of Northport, N. S., and Mrs. Laura Bogie of Boston, Mass." I wrote a letter expressing class sympathy to his wife. She replied stating that he died of a heart attack quite suddenly.

**Harry Gallup, V.**, died at Norwich, Conn., on March 14, 1960. A clipping from a local paper tells that he was employed for many years as an engineer in the Anaconda Copper Company at Perth Amboy, N. J. He retired in 1930 and had lived in Norwich since then. Harry had been a problem in our address department for several years. I remember asking Harry Charlesworth several years ago to look him up, but he couldn't find him. In November, 1959, I hunted for him at a different address in southern Jersey. No find. . . . As these notes are written I have notice of the death of **Norman M. Chivers, I.**, on March 9, 1961 at DeBary, Fla.—**Fred W. Goldthwait**, Secretary, Box 32, Center Sandwich, N. H.; **Gilbert S. Tower**, Assistant Secretary, 35 North Main Street, Cohasset, Mass.

## '06

In mid-April, after a succession of snowstorms and with the lawns still white, it is difficult to picture "what is so rare as a day in June!" But "time marches on" and our 55th is just around the corner. Of the 200 reunion letters sent, some 55 replies were received, with 22 definitely not coming; nine or 10 couples planning to come and four couples "possibles;" 17 singles with three "possibles." Those coming have long since received and replied to the final detailed letter of plans and program but if any others would like to join us they will be given a hearty welcome at Burton House the day before or on Alumni Day, June 12. The majority preferred the dates before and on Alumni Day, and Burton House

or nearby quarters for housing. Those who prefer the shore will gather probably at White Cliffs, at Cedarville, below Plymouth on and after Alumni Day where some of the campus group will join them. The notes on, or with, some of the replies and the numerous checks for class dues are hereby gratefully acknowledged, with the hope that personal "thank-you's" will reach you sooner or later.

A few years ago I facetiously suggested to **Chester Hoefler** that our class should have a "Travellers Club." He thought it was a wonderful idea and added "I nominate you and yours as promotional secretaries." So nominations and applications for membership in the club are in order, and certainly many are eligible. The Hoeflers were leaving on April 13 for a "safari" through the U.S.A. but expected to be back for the June doings. It was over 10 years ago that Chester and Ruth gave their first travel talk before the Women's City Club in Boston. Since then they have visited 58 foreign countries and each year have given a talk for the club members. The most recent one was in February on their last summer's trip to Alaska and our NW corner.

Some record should be made here of that memorable Centennial Week about which you were doubtless fully informed through the excellent publicity by newspapers, magazines, radio and TV. Among my pleasant surprises was a telephone call that week from **Henry Mears, III**, who had come on from Portland, Oregon, and was staying with relatives in Cambridge. Also the same day a call came from **Jim Wick, Jr., II**, who with Mrs. Wick had driven on from Youngstown and was staying at his Rockport summer home on the Millpond. Some of the local clan, too, attended the Friday addresses by Dean Rusk and Harold Macmillan, in person or on TV, and one or another of the panel discussions on Saturday. The climax for '06 was at the Faculty Club that evening. At the social hour and banquet we had a party of 12: President Kidder; V.P. Chase; your secretary; Jim Wick and his daughter Emily (Ph.D. Course V, '51); Henry Mears; Eleanor Manning O'Connor and her husband, Johnson; Chester and Ruth Hoefler; Tom Hinckley and Walter Davol. The class was also well represented at the Centennial Convocation on Sunday in Rockwell Cage which was filled to overflowing. The program included a colorful academic procession and various addresses, including a searching invocation by Mrs. Karl Taylor Compton. Some of the class probably attended the concert that evening, too.

We regretfully report two deaths: **Knight Willmer Wheeler, II**, on February 10, and **Harry Lewis Lewenberg, X**, on March 19. Knight Wheeler died in Lettermans General Hospital in San Francisco where he had been living in retirement at the Elks Club since November, 1959. He was with us only freshman year and evidently returned to San Francisco, as by 1920 (the earliest record I have found) he was mechanical engineer with the Savings Union Bank

there, and by 1920 was in business in San Diego and a contractor there in 1935. In the early 40's he was a Lieutenant in the U. S. Naval Reserve in San Diego, but is not included in the World War II section of the 1948 Alumni Register, when he was retired and living in Dallas, Texas. In the annual report for 1956 of the Alumni Fund, under "Bequests and Gifts by or on behalf of Alumni" is an item of "Knight W. Wheeler (06) Annuity Fund—46,000." Although he had only one year's connection with M.I.T., as far as we know, his opinion of, and regard for, our alma mater is quite evident! . . . Harry Lewenberg was born August 16, 1884, in Boston and graduated with us. In 1925 he married Fannette Poppelhower who survives. Harry's career was carried in the class notes in the February, 1958 review.—**Edward B. Rowe**, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills 81, Mass.

## '07

President **Robbins** was in charge of arrangements for the Centennial Alumni Banquet which was held on Saturday evening, April 8. The following attended: President and Mrs. Robbins, Gilbert Small, Hud Hastings, and Bill Coffin. **Jim Barker** was on hand for other affairs. He was unable to attend the dinner, as President Stratton had asked him to be the host at one of the tables at the President's dinner.

We were sorry to learn that **Bob Rand** recently had a slight coronary. He is getting along well but has to keep quiet and cannot go out a great deal. . . . Your Secretary missed the events of the Centennial celebration and the opportunity to gather news of the class. For the first time in my business life, I had an opportunity to take a winter vacation. So three weeks were spent with Mrs. Walker in becoming well acquainted with the state of Florida. We visited friends along the East coast, traveled the Tamiami Trail, and ended up by spending the Easter season with my sister at Venice, on the West coast, returning home too late for the Centennial Banquet. We visited most of the places offering photographic possibilities and have a rather extensive movie and slide record of our journeyings.

I received a nice letter from **Wheaton I. Griffin**. From it I learned that, at the annual meeting of the American Institute of Architects to be held in Philadelphia on April 27, **Earl H. (Duke) Reed**, '07, Course IV, was to receive the "Kemper Award." Earl has been chairman of the Committee on Preservation of Historic Buildings of the Institute. This national recognition is a fine honor for him to receive. He lives at Chesterton, Ind., Box 7, Route 1, and is with the architectural firm of Earl H. Reed, George B. Eich, Associates, 343 South Dearborn Street, Chicago. . . . A clipping from **Ken Chipman** included a picture of **Clarence Howe**, showing him with three other prominent Canadian engineers, who were serving as Chancellors of four Canadian



Universities. Clarence was Chancellor of Dalhousie University at Halifax, Nova Scotia. This is believed to be the last picture taken of Clarence before he passed away January 1, 1961. It will be kept in our '07 records.

**Tom Gould** learned of the death of our classmate, **Harold S. Duncan**, Course III, in Globe, Ariz., from Huntley Child, '08, and Frank Sharman, '08, who wrote to him from Tucson. Harold died on March 16, 1961, at his home of a heart attack. Immediately following graduation he went to Globe, where he was chief mining engineer for the Old Dominion Mining Company for 27 years. After this mine closed in 1933, he worked for the U.S. government for several years; and then from 1942 to 1958, he served as engineer for the Miami Copper Company. At the time of his death, he was a field man for the Gila County Assessor's office. Harold is survived by his wife Agnes, of Globe, and a married daughter of San Gabriel, Calif.

**Stan Wires** sent me a clipping recording the death on January 6, 1961, of **Clifford Allbright**, Course IV. My records show Cliff had retired and was living at 110 Highland St., Milton, Mass. . . . Another '07 classmate died on February 22, 1961. He was **Dan A. Loomis**, Course XIII. I know many of the men will remember him well. He came to Tech from the Springfield, Mass., High School. The class records show that he retired some time ago. Dan was an honorary director of the Springfield Boys' Club, a former treasurer of the Tunxis Club, and a member of the Longmeadow Country Club. He is survived by his wife; a son, Austin Loomis; and a grandson.

**Jim Barker** was honored by being appointed by Dr. Killian as chairman of the Resolutions Committee of the Corporation on the death of **Clarence Howe**. Jim thoughtfully sent me a copy of the resolution to put in Howe's class record. I quote the closing two paragraphs: "Throughout his life he was a devoted son of M.I.T. He maintained a close contact with Institute affairs, even when deeply engrossed with affairs of state. In 1953 he was elected an Alumni Term Member of the Corporation, and in 1958, a Life Member. He served as a member of the Visiting Committees of the Departments of Aeronautical Engineering, Civil Engineering, Economics and City Planning. He was a member of the Executive Committee of the Corporation from 1957-58.

"Future generations will think of C. D. Howe as one of the truly great men of this dynamic century. The world will remember him as a man endowed not only with many talents, but also with the human virtues of kindness and understanding. We who have had the privilege of personal association with him join with his host of friends and with his bereaved family in mourning so poignant a loss."

Contributions to the Alumni Fund must be made before June 30. The latest report shows for 1907 that 46 men, out of 143, have contributed \$1,453 for 1961. Last year, 63 men sent in \$3,550. Don't put it off—Send in your check now. . . . News this month is a result of interested

class members sending in the items that come to their attention. I appreciate this co-operation.—**Phil Walker**, Secretary and Treasurer, 18 Summit Street, Whitinsville, Mass.; **Gardner S. Gould**, Assistant Secretary, 409 Highland Street, Newtonville 60, Mass.

## '08

As one of the senior classes, we rated the Faculty Club for the Centennial Celebration Alumni Banquet on Saturday evening, April 8. **Sam Hatch** arrived in time to capture a table for us in the Cocktail Lounge, which was fortunate, as by six o'clock the place was crowded and tables were at a premium. Bill Booth, Nick Carter, Harry Dun, John Gianella, Sam Hatch, Leo Loeb, Howard Luther, Paul Norton, Harold Osborne and Joe Wattles answered roll call. We were favored with several guests, as Mesdames Dun, Gianella, Hatch, Loeb, Osborne, and Wattles completed our party. While enjoying our various appetizers, we found plenty to talk about, as several had recently completed world tours and the **Wattles** were soon to fly to Tokyo via Lisbon for the annual meeting of Rotary International. About seven o'clock we adjourned to Private Dining Room Number One to which we had been assigned and enjoyed the delicious dinner provided by the Faculty Club chefs. After dinner we went into the lounge where we listened to a broadcast of Chairman Killian's speech at the Delegates' Banquet at the Statler-Hilton Hotel. This concluded a most enjoyable evening and one long to be remembered by those who were there.

We are very sorry to report the death of **Jim McGowan** on March 15, in Philadelphia. Jim, who was former president and chairman of the board of Campbell Soup Company, died at the University of Pennsylvania Hospital. He retired as president in 1953 and as board chairman in 1956. He also had been chairman of the board of Campbell Soup Company, Ltd., in New Toronto, Canada. He also was director of the Pennsylvania-Reading Seashore Lines and the Philadelphia Manufacturers Mutual Insurance Company. He made his home in Beach Haven, N.J. Jim was born in Stirling, Scotland, and was brought to this country as a child. He was raised in North Adams, Mass., and graduated from M.I.T. with us in 1908. That same year he joined Campbell Soup as a chemist. He became president in 1946.

He was a life member of the corporation of M.I.T. and held posts in connection with the Institute's Biology and Food Technology Departments. He was a trustee of the estate of John T. Dorrance '95, and the Nutrition Foundation, Inc., of New York City. He was a member of the Institute of Food Technologists, the Technology Club of Philadelphia, the Newcomen Society of England in North America, the Visiting Committee for the Department of Food Technology, and vice-chairman of the Philadelphia Section, American Chemical Society. He is

survived by his wife, the former Elizabeth Perce, and a son, James Perce McGowan.

Alumni Day at M.I.T. in Cambridge is Monday, June 12. Hope you plan to be with us. Come and see your old friends.—**H. Leston Carter**, Secretary, 14 Roslyn Road, Waban 68, Mass.; **Leslie B. Ellis**, Assistant Secretary and Treasurer, 230 Melrose Street, Melrose 76, Mass.

## '09

**Tom Desmond's** secretary, Mrs. Alice Mason, sent us the following information: "Senator and Mrs. Desmond sailed January 28 on the RMS Caronia World Cruise with visits to many ports including Morocco, Spain, France, Italy, Greece, Egypt, Bombay, Singapore, Thailand, Hong Kong, Japan, and Hawaii. Their itinerary included many shore trips from most of the ports. They plan to disembark at Los Angeles on April 21, making a short stopover at Grand Canyon and returning on May 3." . . . In the notes in the May Review we wrote that **Salvador Altamirano**, VI, had returned to Boston after 50 years and could not find M.I.T. on Boylston Street. He has written us as follows: "Indeed it was a great pleasure to receive your letter of February 24 which my son forwarded to me. He is living in New York as Mexican Consul. I was visiting him and I may be going again at the end of the month (March). Since 1914 I have been wandering in various parts of the world. First in Montevideo, Uruguay, then in Buenos Aires. I came back to Mexico in 1924 as President of the General Electric S.A., then in 1932 went back to Buenos Aires in the diplomatic service. I was also in Paris for several years. Now I am retired and live here in Mexico City, but am still active in spite of my age. I will write you again when I am in New York to see if we can get together either there or in Boston, as I remember you with great affection. I never forget those times when we got together to prepare for the exams and our daily life at the Insitute. The only classmates I saw since I left Tech were **Haynes** and **Pardee**. As you know the first died of cancer a few years ago. Do you know anything about **Glancy** and **R. L. Jones**? If you happen to see **Kenneth May** remember me to him. I shall try to get in touch with **Whitaker** whom I note lives in New Jersey."

**J. N. Stephenson** (Steve) sent **Art Shaw** a clipping from the Winnipeg Free Press, February 28, 1961, on which it was stated: "Dr. **Charles Camsell**, whose memory was honored on Monday evening with the opening of a new science wing at St. John's-Ravenscourt School, was one of the great Canadians of our time." Charles Camsell died December 20, 1958, and a rather complete description of his life and accomplishments appeared in the class notes in March, 1959. It is stated that "more than any other single person, he was responsible for the discovery and development of the great mining industry of this country (Canada)." It will be recalled that at our 50th



Reunion at Snow Inn Steve played two records of an interview with Charles. . . . We have received a card from Blanche W. Johnson, widow of **Lewis Johnson, VI**, having the following message: "Spring Greetings. The rains, the flowers, the colors and the snows came and 1960 went like 'sixty.' While 1960 was going like 'sixty,' I, too, went like 'sixty!' There were trips to Ralph's and Betty's, and a tour of scenic Maine and New Hampshire; also a jet flight across the Atlantic, where I enjoyed several weeks of luxurious 'vagrancy' in England and Europe! Neither your watch nor mine shows what has happened to and through us as human beings, but I can tell you it is a heart-warming experience hearing from you!" It will be recalled that Blanche with her son Ralph and daughter Betty (Mrs. Sexton) attended the 50th Reunion.

We have received a notice from the Alumni Office of the death of **Xanthus R. Smith, XIII**, on March 8. While at the Institute his home address was Weldon, Pa., and he prepared at William Penn Charter School. While at the Institute he was a member of the Naval Architectural Society; Pennsylvania Club; Institute Committee; and was President of the Naval Architectural Society in his third and fourth years. Our records show that after graduation he resided in Pennsylvania until 1954 when he moved to Bailey Island, Maine, and in January of this year to South Portland.

There were 13 of us at the Centennial Celebration Banquet that was held for our class, as well as for those before 1921, at the Faculty Club on Saturday evening, April 8. Those present were George Bowers, I; Chet Dawes, VI; Austin Henderson, I; Francis Loud, VI; Joe Parker, I; Burton St. John, V; Laurence Shaw, V; Gardiner Perry, VI; Lockwood, I, and Mrs. Towne; George Wallis, II; John Willard, II, and his sister, Mrs. Bertha W. Davis. John, II and Margaret Davis attended the address by Prime Minister Macmillan on Friday evening and the Convocation on Sunday. At the banquet we were accorded a visit by James and Mrs. Killian. At the conclusion of the banquet we listened to an address by James Killian over the loudspeaker system. We were more than pleased to have **Burton St. John** from Wichita, Kansas, with us for we had not seen him for many years. He combined the visit to the Centennial with one to his daughter in West Roxbury.—**Chester L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass.; Assistant Secretaries: **George E. Wallis**, Wenham, Mass.; **Francis M. Loud**, 351 Commercial Street, Weymouth 88, Mass.

# '10

During the past month I have received notices of three deaths. **Earl S. Russell** died March 1 after a few weeks illness. . . . **Earle E. Root** died on January 22. . . . **Frederick A. Godley's** death on February 20 was reported in the New York World-Telegram and Sun: "Mr.

Godley, who had lived in Rye from 1920 to 1942, died of a heart ailment while vacationing in Scottsdale, Ariz., with his wife, Anne. He was on the Yale faculty from 1931 until his retirement in 1947. Mr. Godley was a partner in Hood, Godley & Foulhoux, a New York architectural firm, from 1924 to 1929. The firm worked on Rockefeller Center and the Daily News and McGraw-Hill buildings. He was a fellow of the American Institute of Architects and chairman of the educational committee of the Beaux Arts Institute of design. He graduated from Yale and then from Massachusetts Institute of Technology in 1910. He studied at the Ecole des Beaux Arts, Paris, from 1910 to 1913, when he started work as an architect in New York. He was with the United States Housing Corporation during World War I, and served on the Mexican border in 1916 with Squadron, A, New York National Guard Cavalry."

I had the following letter from **Larry Hemmenway**: "Just sent my card for more dope on Alumni Day for 1961. Hope a good crowd of 1910 shows up. We can at least have a good time just hashing over our superlative 50th of last year. To let you and other interested classmates know, I retired from business on April 1, 1961. So now a new life and much more time for other interests." Now that Larry has retired, his enthusiasm for M.I.T. should be felt in the receipt of more 1910 news from New York.

The M.I.T. Centennial was a very inspiring occasion. It covered so many programs and large assemblies that it was not possible to know how many classmates attended. However, at the banquet held on Saturday evening, everyone was seated according to classes. At the 1910 table were Jack Babcock, Dudley Clapp and wife, Herb Cleverdon and wife, Russell Hastings, George Lunt, and George Maglott with his youngest daughter. Murray Mellish attended the concert on Sunday evening.—**Herbert S. Cleverdon**, Secretary, 120 Tremont Street, Boston.

# '11

General **George Kenney**, in addition to his other activities and duties, is president of the Arthritis & Rheumatism Foundation. The foundation, through its 67 chapters, supports nationwide programs of research, treatment, and patient care for arthritis sufferers of all ages. It sponsors the annual \$500 Russell L. Cecil Award, which was inaugurated in 1956 to honor Dr. Cecil, the foundation's consulting Medical Director. The 1960 award was presented last March by General Kenney to Blake Clark, a Reader's Digest roving editor, for his article "The Cruellest Swindle in Medical 'Cures.'" In the dedication ceremony, held in New York City, General Kenney said: "Mr. Clark's article has performed a real service to the 11,000,000 Americans who suffer from arthritis by focusing public attention on the \$250,000,000 a year racket in 'cures' and remedies which preys on their pain by holding out false hope of relief."

William Coburn, II, Henry Dolliver, I, Charles Linehan, I, Franklin Osborn, III, Suren Stevens, IV, and wife, and Emmons Whitcomb, X, were present at the Centennial Dinner on Saturday, April 8. Mrs. Stevens brought the total up to seven, which is part of our "Seven Come Eleven" slogan. Several Classmates, including Jack Herlihy, II, Obie Clark, II, and O. W. Stewart, I, attended other Centennial events. . . . **Nathan Levy, I**, had an operation last April at Beth Israel Hospital, Brookline, Mass. Your secretary was allowed to visit him a few days later, and he was able to walk around from his room to the nearby lounge, and expected to be able to leave in a fairly short time.

**Frank C. Taylor, VI**, of Rochester, N. Y., died November 29, 1960 at 74 after a brief illness. He was born in Providence, R. I., and graduated from Brown University before he joined us at M.I.T. He went to Rochester in 1912 as a cadet engineer in the Rochester Gas and Electric Corporation's Engineering Department. In 1915 he joined the Industrial Sales Engineering Department and worked closely with many local industries in solving electrical problems. He became assistant manager in 1921, and retired in 1951 as superintendent. He was prominent in many local activities. He is survived by his widow Carrie; son Frank, Jr., from whom the above data was received; daughter Mrs. Hubert Frankfield of Stamford, Conn.; and five grandchildren. His death was previously reported in the March Review, but at that time no details had been received.

**Robert T. Haslam, X**, of Sarasota, Fla., died April 4 at 73, after a long illness. When he graduated from M.I.T. he joined the faculty as assistant instructor in Analytical Chemistry. He subsequently served the National Carbon Company in Cleveland in various posts, and returned to M.I.T. in 1920 as assistant professor and head of its school of Chemical Engineering practice. For five years he directed M.I.T.'s Research Laboratory of Applied Chemistry. He began his career with Standard Oil Company and its affiliates in 1927. He was credited with introducing applied concepts of research to the petroleum industry. He held more than 200 chemical and petroleum patents. He was co-author of "Fuels and Combustion" and was contributor to many technical and trade magazines. He served as general sales manager for Standard Oil for seven years, and was a vice-president when he retired in 1950. He joined W. R. Grace and Company that year as a consultant and director, and worked with Peter Grace, President of the company, in organizing its entry into the chemical industry. Haslam had also been president of the United States Pipe Line Company and Tropical Oil, a director and member of the executive committee at the Ethyl Corporation and American Electric Power Company, and a director of the Dewey & Almy Chemical Company, the Tropical Gas Company, and Eurofund, Inc. He had also served as a member of the Army Scientific Advisory Panel. He certainly was a credit to the chemical and petroleum indus-

tries. The foregoing history is from a clipping from the New York Times of April 5. . . . **Robert H. Mather, VI**, of Windsor Locks, Conn., died April 6, at 74, in Hartford Hospital. He was Consulting Engineer with the Hartford firm of Bemis and Freeman for 46 years. He is survived by his widow Lena, son Robert, and two grandchildren. This data is from a clipping from the Hartford Courant, sent in by Robert Kenney, '09, who was a high school classmate of Mather.

The progress report as of February 28, 1961, for the 1960-1961 Alumni Fund, shows the Class of 1911 highest in percentage of active classmates contributing, although it was only 45 per cent. We were third in the average amount contributed, and fourth in the total amount contributed, which is better than our standing in the total 1959-1960 listing, reported in the February 1961 Review. However, the 1960-1961 fund raising doesn't end until June 30, and anything can happen by then. Hope we'll stay near the top. . . . We have some more address changes. **Norman Duffett, X**, is at 909 James Avenue, Niagara Falls, N. Y. He alternates between this address and 205 South C Street, Lake Worth, Fla., which seems to indicate that he has two residences, one for summer and one for winter. . . . The address for **Armand H. Peycke, II**, is 2261 Calle Frescota, La Jolla, Calif. . . . **Samuel M. Schmidt's** new address is 601 Maple Avenue, Cincinnati 9, Ohio.—**Henry F. Dolliver**, Secretary, 10 Bellevue Road, Belmont 78, Mass.; **John A. Herlihy**, Assistant Secretary, 588 Riverside Avenue, Medford 55, Mass.

## '12

A note from **Gene Marceau** advises that he had hoped to get up to the Centennial celebration but had to give it up. He is now looking forward to being with us at our 50th next year. His address is now 1728A 20th Avenue, North, St. Petersburg, Fla. . . . **Charlie Carpenter** is now at Snedecor Avenue, at Academy, Bayport, Long Island. He has recently remarried and reports living a very happy life on Long Island. He has a daughter and his son is stationed at the Vandenberg Air Force Base in California. He is planning to be with us at our 50th. . . . **Johnnie** and **Carolyn Noyes** are back from their Caronia cruise to the Black Sea and way stations, having gone behind the Iron Curtain in Russia and Rumania. On their way home they spent some time in Paris and London. They are now on a motor trip to the West Coast where he hopes to see some of our old classmates. . . . **Rudolph Fox** is now fully retired from the Vulcan Iron Works in Denver but keeps busy in his wood-working shop, in his dark room and with his stamp collection. His daughter **Phyllis** who holds a Doctor of Philosophy degree has married and is now living in Lexington. His son **Denton** is in Edinburg, Scotland, for a year or more where he is writing for Thomas Nelson & Sons, publishers.

**Cy Springall** and **Marjorie** are off on another safari in and around Africa and are expected home this month. They are including the Mediterranean and Istanbul en route. When they are home they live at 100 Sunset Rock Road, Andover, Mass. . . . **Ernest De Witt** advises that he left the International Harvester Company foundry in Chicago nearly 10 years ago and now divides his time between his home at 1206 Harvard Avenue and his Cape Cod home where he was born.

. . . **R. Bruce Brownlee** writes from 49 Waller Avenue, White Plains, N. Y., that he is tapering off on his engineering activities and is now confining himself to statistical studies. Unfortunately, I was away on a business trip during the Centennial celebration at the Institute. I am advised that the following 1912 men were there at the banquet: **Albion Davis**, **Walter Lang**, **Johnnie Shore**, **Phil Dalrymple**, **Jerry Hunsaker**, **Louis Walsh**, **Fred Busby** and **Harvey Benson**. . . . **Albion Davis** is controller at the Algonquin Club, Boston's best. . . . **Walter Lang** has retired as have **Louis Walsh**, **Fred Busby** and **Harvey Benson**. . . . **Phil Dalrymple** is with Jackson & Moreland, consulting engineers in Boston. . . . **Jerry Hunsaker**, although retired, is still very active with his various directorships and Institute activities.—**Frederick J. Shepard, Jr.**, Secretary, 31 Chestnut Street, Boston 8, Mass.; **John Noyes**, Assistant Secretary, 3326 Shorecrest Drive, Dallas 35, Texas.

## '13

What a year 1961 has been and will be for you 1913 Tech-men. First, the Centennial, including a gathering of leaders in science, industry, education, the arts and government, from 31 nations, was observed at Cambridge. Second, the Russians sprung Major Yuri Gagarin, the first astronaut, into orbit for a trip around the earth and a safe landing (true or false?). Third, the most important to the '13'ers—that 48th Reunion, June 9, 10, 11 at 128 Motel, Dedham, Mass., then on to Cambridge Alumni Day, June 12. Make plans now or change your plans to be present.

**Howard Currier** writes of **Jerry Lane**, whose death we reported in the April issue that he always claimed he (Jerry) was the youngest member of the class and to quote: "In any event, he is being greatly missed hereabouts, as he gave much of his time to civic duties and was president of the Hope Ranch Park Improvement Association for several years." . . . From **Bob Weeks**: "I appreciated your mention of my sojourn in your Massachusetts General Hospital in The Technology Review. I would like the Class of 1913 to know how generous you were with your visit and thank them for the gift of flowers from the class. I also had visits from **Bill Eichorn**, **Bill** and **Ellen Brewster** and **Walter Beadle**, Class of 1917. The M.I.T. Chapter of DU also sent me flowers, so you see I was well remembered. I am feeling well now after a turn at the University of Pennsylvania

Hospital for observation in February when **Bill Wiley**, Class of 1929, came to see me. I am pleased that **Peter Park**, Class of 1940 is one of the new owners of the Wind Turbine Company which I founded. He is on this area committee for the Second Century Fund. M.I.T. friends are the best. I am sorry that I cannot be with you for reunion but you know that I will be there in spirit." Thank you, **Bob**. It is always nice to hear from you.

The annual post card was received from Barbados, West Indies, signed, "Kindest Regards, **Dave Nason**." Hope the fishing was good as well as the rum. . . . From **Bill Mattson** comes a very newsy letter. He is pleased that the committee chose 128 as the site of our 48th Reunion, thinking that by being close to Boston we should have a large attendance. **Bill** and **Jo** planned to drive East in June to visit with **Larry** and **Airy Hart** in New York, then on to Boston for the reunion and visits with their many friends. But alas, **Larry** has retired from the Junior Achievement Organization and the **Harts** are giving up their apartment in New York the 30th of June, putting their furniture in storage and going to Colorado in July to visit the **Mattsons**. So the **Harts** probably will not attend the 1913 Reunion, and **Bill** and **Jo** will stay in their hilly abode this summer.

**Gordon Howie** sends us a word from Clearwater, Fla., where he and **Ethel** spend their winters from October to early May: "This winter we have been treated to better than Florida's normal temperature and we certainly have enjoyed it. Better than the weather, however, we enjoyed having **Ethel** and **Hilding Carlson** near us for two weeks at Clearwater Beach and so had several visits with them. While the **Carlsons** were here we all had get-togethers with **Ethel** and **Lester Gustin**. **Ethel** (my **Ethel**, of course) and I hope each year to spend seven months in Florida and five months in Maine. Many thanks to the **Capens** and the **Achards** for taking time to arrange an interim reunion." We are looking forward to greeting you and **Ethel**.

**Geoffrey Rollason** comments: "Taking off for another trip to Australia. Expect to be back by 5/31 and hope to attend." . . . **Allan Waite** adds: "I am celebrating my 50th at Harvard, Class of 1911. I'll be there (I hope) at our M.I.T. 1913 50th in 1963. I am hopeful I can make our 48th for a short visit." . . . See you at the Reunion—**George Philip Capen**, Secretary and Treasurer, 60 Everett Street, Canton, Mass.

## '14

As this issue of The Review covers the report of the Centennial Celebration of the Institute, your secretary will omit these activities, except for a report on the Alumni dinner. The attendance was so great that it was divided among five dinners. Fourteen was assigned to the Faculty Club. Fourteeners there were **Mr.** and **Mrs. Herman A. Affel**, Professor and **Mrs. Leicester F. Hamilton**, **Mr.** and **Mrs. Philip Covitt**, **Hampar T. Gazarian**, **Te-**



Ping Hsi, A. F. Peaslee, and your secretary and Mrs. Richmond, who were at the Statler with the Corporation.

In the last issue there was reported the death of **Walter C. Newbury**, but except for a short note your secretary could not obtain any further information on his life. **Harry Wyld**, has, however, just written that he learned that Walter died on September 12, 1960, quite suddenly at the British-American Hospital in Madrid, Spain. He had been on a European tour. The fact that he had never married explains why it was impossible to find any information regarding his family. Wyld writes that Newbury had been a Chelsea Rotary Club member, and a director of the Chelsea Memorial Hospital. Warren had traveled extensively abroad and was a keen photographer on his foreign travels. He was an active member of the St. John Lodge A.F. and A.M. His nearest relative was a cousin to whom we extend our sympathy.

Without repeating too often, your secretary again would like to remind you that since we are rapidly dispersing on retirement, it would be a great help if a note from you would tell where you are now living, and what you are doing.—**H. B. Richmond**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.; **C. P. Fiske**, President, Cold Spring Farm, Bath, Maine; **H. A. Affel**, Assistant Secretary and Class Agent, R.F.D. 2, Oakland, Maine.

## '15

What a Class! Thirty-four point six percent have paid an average of \$7.05 each for class dues. We need only a few more to equal the 1959 (remember: dues only every two years) record of 40 percent. How about your dues? With these generous dues checks came some wonderful letters which follow almost alphabetically. Read them all and you'll get an interesting account of the many interesting and worthwhile activities of our men. Their warm and friendly feelings are an ample reward for me in my job as class secretary. These are deep and valuable friendships—I couldn't ask for more.

**Herb Anderson**: "I am sorry not to have been with you boys at the New York dinner. While in Palm Beach I'll try to look up **Jim Tobey**." . . . **Phil Alger**: "Our eighth grandchild, Philip Harken Alger, was born on January 30th."

**Clark D. Abbott**, Box 567, Hudson, Ohio: "Many years ago, with the hope of saving the Class of 1915 a little postage expense and the secretary a little bother, I suggested that I be removed from the mailing list but this suggestion was of no avail. This is understandable as it would probably take all the king's horses and all the king's men even to attempt such a thing, and then with no assurance of success. It is not that I fail properly to respect the best institute of technology there is, nor that I am indifferent to my class at M.I.T. It is only that my heart is with another college, Cornell University, to which I transferred at the conclusion of a satisfactory freshman year

at M.I.T. Cornell had been my choice all along through high school, but paternal ideas were not in full agreement with me. Entrance exams and matriculation at M.I.T. were the result of arbitration whereby I was to be permitted to change to Cornell at the end of one year. So the stubbornness of youth won out and I have never regretted it. Cornell is also the alma mater of my son, now Academic Vice-president of Montana State University, and one daughter spent two years at Cornell before deciding to become the wife of a soldier, now an Episcopal minister. And so, Azel, I think you can understand why my heart is with Cornell. I can think of only one M.I.T. classmate for whom my name in the Class Notes might ring a bell; namely, our Class President, **Marshall P. Dalton**, a former business associate, a fine gentleman and business man and, I hope, still a good friend. I retired in 1957 after 38 years with the Engineering Division of Associated Factory Mutual Fire Insurance Companies. Married 43 years; three children and 11 living grandchildren. Hobbies: home improvements and caring for our three acres of lawn, garden, fruit trees, berries, flowers and ornamentals. An occasional trip within the U.S.A., pleasant time with local friends, some reading and correspondence and, infrequently when I have no good excuse for absentsing myself, unrewarding TV programs about completes the list of my activities. To many active minds this would seem to be a humdrum and valueless existence but to me, after 42 years of trying to do a good job for my employers, it is a soothing and eminently satisfactory experience."

**Doug Baker** is hibernating in the winter at his East Middlebury, Vt., farm.

. . . **Ken Boynton**: "After a Mediterranean cruise on the 'Stella Polaris' we'll be back here June 15th." . . . **Maurice Brandt**: "That was a cute little 'help Azel' valentine you sent us, I'm glad to 'help Azel'!" . . . I'd like to have heard more from **Ralph Curtis**, but he simply wrote: "Here's the dues—no change—no news—no comment."

**Frank Boynton**, 163 West State Street, Pasadena 2, Calif.: "For quite a few years, now, after reading the Class Notes in The Review I have said to myself I have got to write that guy a letter and let him know how much I think the class owes him for his years of unselfish work as the class secretary. I know something of the amount of time and effort you must devote to this work. I was business manager and treasurer of The Western Bird Banding Association for nearly 10 years and I know your work for the class is more exacting than that was. So from me here is a big vote of thanks and appreciation and I know the whole class joins me in this. I retired last May after spending the last 17 years with a firm of structural engineers in Los Angeles. Our work was almost entirely on schools and my specialty was what we called 'Re-habs.' This consisted of rehabilitating old schools (built prior to our 1933 earthquake) so that they could receive approval by the California State Division of Architecture. My wife and I have been

feeding wild birds for 10 years or so and we have lots of fun watching them. We have a very small rear yard but it is essentially 'cat' proof so the birds like it. For about two years I did considerable banding but gave it up when my work as business manager of W.B.B.A. began to take a good share of my spare time. Now that I have the time to band I have decided I prefer just to watch. Having written this letter I hope some of my old friends at the Institute will see it and do likewise as I would like very much to hear from them. Thank you again for your faithfulness to your class." Many thanks, Frank, for those kind words—my class job is a pleasure when it means so much to good fellows like you. **Charlie Norton** is a bird watcher down on Martha's Vineyard. Maybe he and Frank can swap experiences.

**Henry Daley**: "Enclosed find check to help keep the good ship 1915 from floundering (as if there was any chance of that). Things have been rather quiet around this snowbound area since I wrote you in late January. I ran into Andy when both of us happened to be commuting into Philadelphia on the same train last week. He looks well and chipper after all his tribulations and was leaving the next day for a month's stay at Pompano Beach, Fla. From there he plans to leave for Michigan to visit his son and family so it will probably be the middle of April before he gets home. His wife, Alice, will do all the driving as Andy is not quite up to it yet. I will not be up for the '15 dinner in April, but planning to come on as usual for Alumni Day in June. Our best to you both." . . . I wonder what **Alan Dana** means: "I am now completely retired so I'm on short rations." . . . **John Dalton**, X: "I enjoyed our recent lunch together in Providence. I am on my way to Florida." . . . **Harvey Daniels**: "Retired of course. Sold our home in Washington, D. C., and are staying in Delray for a few months until along in May sometime. Then on to Minnesota where we expect to have our headquarters henceforth. Sorry we will not be making the class dinner on April 8. Probably our next trip East will be in November or December en route from Minnesota to Florida. Kindest regards to you, Azel, and other classmates who remember me."

**Gardner (Willy) Wilson**: "I recall our pleasant get-together in Cambridge more than a year ago during the assembly of Alumni delegates when you said you intended visiting this 'Dutch' country down here. The door is still open if you find it possible to come this way. It's only a small retiree's cottage with about a third acre of 'estate,' and if you want a quiet spot—this is it. Be my guest. Loafing keeps me well occupied, enjoying whatever my fancy dictates. Have a sailboat on the Susquehanna nearby, enjoy hunting, fishing, manicuring the grounds around my 'estate,' attend various sports contests, serve on various committees of a civic and church nature, am also a member of an archaeology society in the interest of collecting American Indian artifacts so numerous around here, dabble a bit in stocks, attend lectures and banquets of



various societies and groups and do some wood carving with a few rare woods. I have a little hobby work shop downstairs and when I'm not very busy read a good bit. I believe I have the answer on how to be contented, without a wife. My children are married and I have two grandchildren whom I visit often. I suspect the secret of contentment is variety of interests, pursued by one's self as fancy dictates. Here's hoping I will see you soon."

**Loring Hall:** "I am sorry not to see you oftener, but I do think of you and the gang. I am supposed to be retired, but I am not working at it as I seem to have more irons in the fire than ever. I had a stimulating visit in Argentina and I am enthusiastic about its future." . . . Mrs. Helen Hall wrote from Portland, Maine, where Alfred has been seriously ill for a long time, that he was glad to get the class picture and wire which we sent him from the June Reunion. . . . What a reputation these classmates give me. Circling the "No Solicitations" I put on the class dinner notice, **Dave Hughes** appended: "You're slipping." Then **Ben Neal** adds: "You confounded old beggar, but here's a check with genuine affection." And then **Jim Tobey**, languishing luxuriously at Palm Beach: "What a strange coincidence, a plea for class dues just before a trip to Europe! You will undoubtedly get about 67 comments to exactly the same effect, but all in the spirit of fun, as is mine. I hope that you and Fran have a most enjoyable time, and will tell us all about it when we see you next July. We leave here April 8 for dear old Connecticut and then I spend most of May lecturing at the Yale School of Medicine, once a week only, some 40 students, a third of them foreigners. My 6th year at this stint. It is 86 here today, and we have been suffering on the beach." Ah, me! Maybe I really need Frank Boynton's kind words above.

The **Lovell Masons** of Milford, N. H., are in Europe this Spring. . . . **Frank Murphy** gave up on retirement in Florida and has returned to Boston. . . . **Boots Malone:** "On February 9 we left the snow of Vermont and shall be in Sarasota for two months." . . . **Pete Masucci:** "I am retired, doing nothing and liking it." . . . **Bill Tallman:** "I am still down in the salt-mines, except for a month or so in spring and fall. All leisure (?) time is consumed by six grandchildren." . . . **Speed Williams:** "Here's your check; small but quick. If it were any more it probably would bounce."

What a Class! On April 8, during the Second Century Celebration, we had a class dinner at the M.I.T. Faculty Club. Twenty classmates and one guest, PFC Gerry Rooney of the USMC attended. Jim and Mrs. Killian paid us a visit and we were all delighted to have this gracious pleasure from them. Time marches on as **Louie Young** remarked that Jim Killian and President Stratton had both been students in his Physics class way back when Louis was teaching at the Institute. It was wonderful to have these men from beyond the Boston area—Jerry Coldwell, Warren Cowles, Ralph Curtis, Joe Livermore with Ben Neal from Lockport, N. Y., the long distance winner. In

addition: Larry Bailey, Evers Burtner, Vick Enebuske, Sam Eisenberg, Clive Lacy, Azel Mack, Archie Morrison, Harry Murphy, Wally Pike, Pirate Rooney, Jac Sindler, Fred Waters, Pop Wood, Max Woythaler and Louie Young. An outstanding group of friendly classmates. After cocktails the old Pirate opened the dinner with a rousing "We are happy" cheer. Then after one of Bill Morrison's delicious dinners we adjourned to the Club lounge to hear the broadcast of the speeches from the dignitaries at the Statler across the river in Boston. Later several classmates with Ray and Mrs. Stevens (1917) visited with Fran and me at 100 Memorial Drive, all in all a pleasant and memorable evening. The highlight, for 1915, of the Centennial Celebration. Unfortunate cancellations from several of our regular attendees kept the attendance down to a low figure for us.

Our annual Class Cocktail Party will be held the afternoon of Alumni Day, June 12, at 4 P.M. at the M.I.T. Faculty Club. All classmates, their wives, families and guests are invited. There is no charge for this. **Al Sampson** and Barbara Thomas are setting this up for us. . . . On a hurried trip to Belleair, Fla., on a family emergency, I saw Tess and **Gabe Hilton** and talked to **John Homan**. All are well and happy and enjoying their retirement in that fabled land of sunshine. John is planning a European trip this summer. . . . **Ken** and **Helen Boynton** are on the *Stella Polaris* for a Mediterranean Cruise. . . . **Ed** and **Anne Sullivan** have been visiting some hot, dirty countries on their round-the-world cruise so that their last card from Bangkok said, "The U. S. is a wonderful country." I'm sure we all agree.

We have a few more class dues letters. **Al Walter:** "Congratulations for the wonderful work you have been doing as class secretary over all these years." Thank you, Al, it's a reward to know how you feel about my labors for 1915. . . . **DeWitt Ramsay:** "Mine is a voice from the past. After 35 years as executive vice-president of Smith Ramsay & Company, members of the New York Stock Exchange and underwriters of public utilities financing, I retired in 1957. I am now enjoying seeing some of the world with my good wife. We enjoyed living in Europe for a year and last summer visited our west coast and the Canadian Rockies." . . . Poor **Bill Spencer** was badly injured on February 1, when he was struck, crossing a street, by a truck. He is just about back to normal. I phoned him and was glad to talk to his wife and learn that he was pretty well recovered. They extended us a cordial invitation to visit them in Baltimore and we do look forward to a trip that will include seeing many of you classmates and your good families. Bill writes further: "As one of the local committee on the Second Century Fund Drive we are having get-togethers and making some slow progress with Bill Bergen '37, of the Martin Company (President), chairman of the group. My contribution will be combined with my gift to 1915's 50-year gift fund. Again I ask that you give my best regards to all my classmates and I send my best to you and your nice wife."

And here's another perfectly wonderful and delightful letter from **Mary Plummer Rice** in Paris. Mary is too modest. She does not realize what human interest her letters carry to all our class. "Your fine letter was so welcome, but mine was definitely not for publication! How did I ever give the impression I'm doing anything except enjoying every hour in Paris? I attend all the classes pertaining to psychiatry and psychology simply because these interest me but I took my last exams in 1915, since I'm not looking for 'credits.' The Sorbonne and the Faculty of Medicine, both under the University of Paris, have been most understanding. They have let me, and many like me, be 'auditeurs libres' and attend any class where there is room, even if standing. And I love listening—with no end-of-term fears! Your trip with Mrs. Mack sounds perfect. I wish I could be here May 18 but I leave May 15 for London and sail on May 20 on the 'Maasdanr' to reach New York for Deane's graduation June 2. I'll be in Boston the following 10 days and hope to see M.I.T. if it is graduating time. Have a wonderful trip. I'm using a 'eurailpass' to go on a dash to Copenhagen, Stockholm, Germany, Vienna and Switzerland during the Easter vacation." . . . When you read these notes, Fran and I should be acquiring a perfect British accent in some London pub, for my stories for the next class dinner. Cheerio and carry on to "help Azel."—**Azel W. Mack**, Class Secretary, 100 Memorial Drive, Cambridge.

## '16

The 45th Reunion is here. **Ralph Fletcher** says we'll look forward to seeing you at the Oyster Harbors Club, Osterville, Cape Cod, June 9, 10, and 11. It's never too late to decide to come. Let **Jim Evans**, Reunion Secretary (451 Van Houten Street, Paterson, N.J.) know if you can, or **Steve Brophy**, Reunion Chairman (470 Park Avenue, N.Y.C.), or **Ralph Fletcher** (Box 71, West Chelmsford, Mass.). But be sure to come anyway; for the full two days if possible, but at least for the afternoon and dinner on Saturday June 10. As of early April, **Jim Evans** reported that postcard and other returns show some 85 or 90 in attendance. Cards returned to him gave bits of information about a number of individuals. . . . **Charlie Lawrence** expects to be present for lunch and dinner only. He is still limited to small groups and short times of excitement. . . . **Paul Hatch** will show up if possible for Saturday night dinner. . . . **Saul Lipman** in Pompton Lakes, N.J., expects to be abroad at the time. . . . **Wallace Savage**, in Washington, D.C., regrets he can't come. He's had paralysis since 1956. . . . **Kem Dean** of Houston was unable to say for sure at the early mailing date and asked about **Lev Lawrason**. . . . **Victor Dunbar** in Hanover, N.H., was retired but is now working on a new job. . . . **Len Best**, Summit, N.J., is to be at the graduation of a daughter from Goucher College.

Steve Brophy has made several assignments for the reunion: **Stew Rowlett** is to be in charge of registration; **Jim Evans** together with **Joe Barker**, in charge of entertainment at the Saturday dinner; **Izzy Richmond** and **Steve Whitney** in charge of transportation; **Len Stone** in charge of bridge; **Walt Binger** in charge of shuffleboard; **Bob Wilson** in charge of golf with **Bob O'Brian** as executive officer; **Herb Mendelson** and **Walt Binger**, entertainment Friday evening; **Jap Carr**, tennis; and **Howard Claussen**, boating and fishing.

**Maury Holland** missed the 43rd and 44th while in Hawaii but, as he has told Ralph Fletcher, he'll bring Aloha from the 50th state to all in June. Son Maurice, Jr., now at Harvard Graduate School as a Woodrow Wilson Scholar after a two-year hitch in the Navy, has been appointed sailing master at Harwichport and may be on the job by reunion time. Maury's home address is Love Lane, E. Greenwich, R.I. . . . **Jap Carr** writes from West Palm Beach where he lolls or something in the winter, that he and Mrs. Carr will surely be at the reunion. He implies he can hardly wait to organize the tennis tournaments there. He probably knows better than we do how few 16'ers actually pick up a racket any more, but he's certain (almost) to try to get Bob O'Brien, our honorary member, into a tennis game and away from golf. But one thing Jap will have to keep in mind, and that is Bob's recent successes at golf at Reunions, e.g. a 35 at Chatham on our 44th. . . . Early in March, a card from **Len** and **Dolly Stone** in St. Croix, Virgin Islands, said that they were just getting rid of sea-legs after a week's sailing around the Virgin Islands on "Lady Tristram," a 50-foot yawl. The next stop was to be St. Thomas for a few days and then to Florida for perhaps a week calling on friends. Regarding St. Croix, Len says: "This is the only place one can be sure of warm swimming weather and sunny skies in winter. We love it!"

**Bob Wilson**, as Commissioner, U. S. Atomic Energy Commission, has done it again in print. This time it was a talk on the subject "Radioisotopes—A Success and A Challenge," given at the "Radioisotopes for Pittsburgh Industries" Seminar in Pittsburgh, February 22, 1961, and sponsored by U. S. Atomic Energy Commission, American Nuclear Society (Pittsburgh Chapter), and the Chamber of Commerce of Greater Pittsburgh. Hope you can read a copy of this most enlightening talk. With respect to radioisotopes, he says we do not have to look into the future. Our feet are solidly on today's ground. "Most of them were entirely unknown before the atomic age. . . . Their appearance has not been greeted with the fanfare that is so often associated with the future prospects of the powerful reactor. In a great sense, these by-products have been taken for granted." He touches on medical benefits, agricultural benefits, and isotopic power sources used in industry's development and research. But he says: "We must reject the concept of resting on our laurels, assuming that we have reached the summit. We must consider ourselves

rather as being at the threshold of the frontier of new and dynamic advances in radioisotope and radiation techniques." We trust he can give us a short period of clarification at the reunion. On April 3 Bob left for Vienna, where he was to be the U. S. representative at the International Atomic Energy Agency.

According to the Providence Evening Bulletin of March 3, **Arthur Stewart** retired April 1 from his post as general manager of the American Thread company's Willimantic, Conn., mills. Arthur joined American Thread as agent for its Westerly, R.I., mill in 1932 after serving with the Lansdale Mills for the first 21 years after his graduation. The news notice says: "When the American Thread Westerly mill was destroyed by the 1938 hurricane, Mr. Stewart was assigned to the firm's New York offices and in 1942 became agent for the company's Merrick Mills in Holyoke, Mass. In 1951 he became agent, then general manager of the Willimantic plant." . . . **Vannevar Bush's** writings make good reading for everybody. Here's an excerpt from an article in the Sunday New York Herald Tribune, February 12, that relates to a certain country estate in Middleburg, Va.: "Mr. Salinger announced at his first briefing this afternoon in the cozy Writing Room of the Red Fox Inn (founded 1728) that the President intended to read during the afternoon although he also brought along a brief case full of official reports. The book Mr. Salinger said the President is reading is 'Science, the Endless Frontier,' by Vannevar Bush."

In March, our treasurer **Hovey Freeman**, then worrying about class finances, wrote that he and his wife had just returned from a very short vacation in Acapulco, followed by business meetings in Los Angeles. In 12 days they covered about 12,000 miles by jet and came back across the country in one of the new 707 astrojets in four hours and nine minutes from takeoff in L.A. to landing in Idlewild. As Hovey remarks: "What an age! I noticed a tremendous development in Mexico since I was there 20 years ago. The country seems prosperous. Our meetings in Los Angeles were at the Beverly-Hilton which certainly was no punishment, but the L.A. traffic is really something and in spite of new freeways it is getting no better fast." . . . **Larry Knowlton** sent us the clipping regarding **Arthur Stewart's** retirement. Says he used to see Arthur occasionally in Rhode Island and in 1943 ran into him while on vacation in Maine. Larry contends he still does nothing constructive but just keeps busy doing nothing. They spend a couple of months every year visiting their children and grandchildren. Their daughter lives near Raleigh, N.C., and their son recently was transferred to Davenport, Iowa. He says: "With most of September in Maine and possibly a few weeks somewhere in the sun in February, that leaves about eight months to work as a day laborer in or around the house. I never get caught up with all there is to do at the rate I do it. (We know what you mean, Larry!) Last year we went to the Pacific Coast and Hawaii

and we have just returned from a Caribbean trip. We enjoyed both and learned a great deal about our island possessions."

**Will Brown** was startled, he said, to NOT see his name on the response-to-initial-letter list for he had already promised to be at the 45th "with bells on," stag. Said he'd be glad to room with anyone since his "usual roommate, **Howard Whipple Green**, has left our midst." He promises he doesn't snore, "not much, anyway." . . . **Steve Whitney** appreciated a chance to read **Irv McDaniel's** letter regarding his research on night-clubs in Europe and elsewhere and on his visit to Russia. He rated Irv's comments on Russia as the most vitally interesting but wagered: "After all his night club visits, the Old Howard would look pretty tame to him, I'm sure. I'm just leaving for my place in New Hampshire where my grandchildren have been on holiday skiing. So, the old man will be up there in a few hours and will probably break his ankle out on the slopes with them!"

Back in March, **Emory Kemp** returned from his winter vacation in Sarasota, Fla., to good old Wellfleet on the Cape (way out on the Cape). He wrote Ralph that his eye surgeon expects to operate for cataracts on both eyes right after the 45th Reunion in June. Unless there are changes in his plans, he expects his son (the 1916 Class Baby) will bring him and take him home from the reunion at least on Saturday the 10th. It's a rare reunion that Emory misses, so, best wishes to you, boy. We'll all expect to see you in Oster-ville! . . . **Ted Bulifant** writes Jim Evans from Florida: "Hi. Here we are in retirement at this hotel (Lavin Palm Beach Hotel) for the next year or two. We are trying to get used to it." . . . We've been having some educational correspondence with **George Petit** on the subject of economic forecasting. George has a system. He's a consultant and has had this system for quite a while. He has been very successful, with a probability of 88 out of 100 he says, in calling the turn between uptrends and downtrends (and vice versa). We have before us a copy of "ENR Cost Indexes by Region and City," supplement to the Engineering News-Record, March 23, 1961, Business Notes Department, Engineering News-Record, N.Y.C., copyright McGraw-Hill Publishing Company, "reprints available at 50 cents each." Along with the charts of the Cost Indexes 1913-1960, is one called "Momentum Net Change Curve," which bears the designation "George H. Petit Trend Analysis, Hartford, Conn." If you are interested in costs, here's a significant and timely observation from George: "The rate of advance of costs is weakening significantly for the first time in nine years. You can use this plot to determine the current value of your home in current dollars compared with the date of purchase providing depreciation has been taken care of."

**Sidney Dodd** writes that he has retired to what he had hoped would be a long deserved rest after an extended period as chief chemist for Oakite Products, Inc., where he had long "ridden herd" over a



large group of people, mostly chemists. He notes: "My wife has taken over where my business superiors left off. I never realized her ability for thinking up and seeing they were done, different kinds of work around the house. However, I do have time to read and as I have about 7000 books (very few on chemistry) I have my reading taken care of." Sidney says he's against retiring to Florida "because to gaze upon people who are as ancient as yourself, day by day, would be bad psychologically. I'd rather live near a school and read Wodehouse." His son and daughter-in-law are both doctors. His son is a specialist in anaesthesiology at the Windham Memorial Hospital in Willimantic, Conn. . . . **Charles Paugh** writes from Frederick, Md., that although three years past the magic age of 65 he's still actively on the job as director in the Army Chemical Corps Engineering Command. However, he plans to retire in December and move to a new home to be built this summer on their waterfront lot in Tequesta Country Club Subdivision, Jupiter, Fla., near Palm Beach. Says: "We plan to spend summers on our island in Charleston Lake, Canada, and one of our favorite recreations of boating and fishing will be at our doorstep in both places. My technical education has provided me a lifetime of rewarding experience and I look backward with few regrets and forward with continued enthusiasm." Their daughter has finished college and is with an advertising agency in New York.

**Allen Giles** continues active as chief engineer on Longwood Towers in Brookline, Mass., three buildings of apartments situated on the famous Brookline-Boston park system. A card shows the buildings surrounded by four acres of lawns and gardens that form a private park for residents and guests. Allen points out that the Towers were purchased by A. M. Sonnabend, President of Hotel Corporation of America in May, 1960, and that they are enjoying several innovations under the new management. At present all the former management personnel have been retained. "One of his sons is Roger P. Sonnabend, M.I.T. '46, who, according to the new Alumni Bulletin, has just been made president of the Hotel & Motor Division, Hotel Corporation of America." Allen enclosed some attractive general information and a rental schedule. For a copy, address him at Longwood Towers, Brookline 46. He says he has been tumbled into a particular category cited by a former alumnus when Allen was in Tech: "I used to be known as the son of my father. Now I am known as the father of my son." His son, Allen Giles, Jr., on the faculty of the University of Buffalo since 1953, has been associate director of the Music Department since 1959. He was recently guest artist as concert pianist with the Amherst Symphony Orchestra in October 1960. Allen, Sr., sent a copy of the write-up of his son's background in the program of that concert. Allen, Jr., majored in piano while earning his Mus. B. degree at Boston University College of Music, and in sacred music for the A.M. degree also at Boston University. He studied further at the

Eastman School of Music and at the University of Michigan, and has performed as piano soloist with the Boston Pops and Buffalo Philharmonic orchestras.

In February **Ray Brown** (who is with Strategic-Udy Processes, Inc., metallurgical Research and Development, Niagara Falls) sent some interesting dope in the nature of "power notes." On February 18 the M.I.T. Club of Niagara Falls and Buffalo had a tour through the newly started Niagara Generating Plant. Says Ray: "This huge power plant is one of the world's largest, with installed capacity of nearly 2,000,000 kilowatts. Its thirteen 150,000KW generators are the largest of their kind ever built. Two of the generators are now running, with the remainder scheduled to start up in a matter of months. Those who had any difficulty in the old Course VI laboratory synchronizing generators would probably approve of the automatic device now used for synchronizing." Ray insists that: "Anyone passing through Niagara Falls should take time to visit the Niagara Power Project, whose total cost will be \$750,000,000, and none of it taxpayers' money! It is indeed a new Niagara wonder." . . . **Steve Berke** sends us the January, 1961 issue of the New England Architect and Builder Illustrated, and what do we find on page seven? A wonderful let-me-do-it-for-you picture of **Bill Drummey** together with pictures of his two new partners. Then, there are six pages of pictures and text covering the amazingly wide variety of buildings and structures that bear architecturally the name of William W. Drummey. We'll have the magazine for all to see at the reunion. **Steve** and **Louise Berke** took a cruise on the Holland American Liner "Statendam" the first two weeks in March, primarily to see what the near-tropics would do for Louise. It was found quite helpful and Steve says it looks as if they may move to the Caribbean Islands for four or five months each year. . . . **Frank Darlington** writes from Leetsdale, Pa.: "Have immensely enjoyed Pittsburgh's third snowiest winter since 1914, and still hope that our usual March blizzard will carry the record up to second, if not create a new one. Mrs. D. and I had plans for a Scottsdale, Ariz., trip in February, but fortunately closer examination of the proposition changed our minds and we enjoyed our winter stay here more than ever. Sorry not to be able to be with you in Oyster Harbors, but we shall not leave here until June 11 and arrive at our summer home in Hyannis Port too late." This coming summer will be Frank's 65th as a summer resident of Hyannis Port and he notes: "I sincerely hope that Middleburg will take the heat off and return the place to its former simple charm. The thought of having to find another retreat is frightening to contemplate."

The regular 1916 luncheons continue monthly in the M.I.T. Club of New York rooms in the Biltmore Hotel, the Thursday following the first Monday of each month. At the March luncheon, **Stew Rowlett**, **Steve Whitney** and **Harold Dodge** heard **Joe Barker** tell how he had gone back into harness as executive vice-

president of OEMI (Office Equipment Manufacturers Institute). He was probably chosen for the job, say we, because of Barker-like work done as a consultant for OEMI on the development of American Standards in the data processing field. . . . The column closes with the last-minute invitation. Come to the 45th Reunion at the Oyster Harbors Club, Osterville, Cape Cod, June 9, 10, 11, Friday, Saturday and Sunday. And keep sending in any bits of news you may have.—**Harold F. Dodge**, Secretary, 96 Briarcliff Road, Mountain Lakes, N.J.

## '17

**Bob Erb**, who is still active as president of Melville Shoe Company, advises us that: "I came from our factories in New Hampshire to the headquarters office in New York in April of 1956 and almost five years have passed very quickly. Melville Shoe has had a very accelerated expansion program during the last five years, particularly in our retail divisions, because of the growth of shopping centers and roadside drive-in stores. Retailing, in general, has changed greatly during the past five years and it is a full-time job to follow all of the changes and the trends. My home is now in New Canaan, Conn., and I would welcome a visit at my home at any time from any of our classmates. It bothers me somewhat to read the lengthening list of 1917 retirements. I find it hard to visualize retirement after having kept rather strenuous hours for so many years in the shoe business. Perhaps I need some help from some of those who have found a happy answer." . . . **Dick Lyons** says: "I resigned, effective December 31, as president and chief executive officer of Union Texas Natural Gas Corporation. However, I remained on the Board of Directors and on the Executive Committee and am in a consulting capacity. Due to the fact that I had many unfinished matters and because of the consulting obligation, I have been just about as busy since January 1 as I formerly was. However, a lot of the pressure is off and that helps."

**Loosh Hill**, who has an unquenchable sense of humor, writes: "I am glad to be here. About a year ago they operated on me for an aneurism of the aorta, about a seven-hour job, so now I have nice 'Teflon' (**Walt Beadle**, please note) arterial tubing all over my insides and it works swell. Having recently crossed 66, every day looks beautiful to me whether it is or not, and I do hope the days will come up regularly for a while yet. I have not retired. Seems I'm director, executive committee, treasurer, etc., of Eastern Utilities Associates (**Enos Curtin** is some of these things, too), one of the New England Electric and Gas Holding Companies, and chairman of the Board of Fall River Electric Light. When I came up for retirement, the Board voted to keep me on indefinitely, with this rather pungent remark by one of my fellow members: 'Hell, Hill only got to know something about this job within the last five years! We're not going to put him



out to pasture now.' In my spare time, I am a trustee and occasionally buy, sell, or merge small companies, for a consideration, of course. Exercise is rather limited, having joined the 'Coronary Club' some years ago, though I retain sufficient energy to curl during the winter three or four times a week. (Loosh advises that curling has nothing to do with hair do's, but is an ancient Scottish game played on ice.) We live in Brookline in the same house we built in 1927, but also have a shanty in Marion, Mass., on the shores of Buzzard's Bay. My daughter, Mrs. John K. Stanton, has three of my grandchildren, two boys and a girl, the latter, age 3, being locally known as the 'Blonde bomber' because of a triple surplus of juvenile energy. Son, L.T., Jr., is a surgeon, presently a junior resident at the Peter Bent Brigham Hospital, Boston. He has two children, a boy and a girl. The former is L.T., 3rd, which pleases this ancient grandfather very much. It might be noted for the record that any two of the assorted grandchildren together in the same place can wear this forbear down to a rag, a bone, and a hank of hair in exactly two minutes by the clock."

A University of Chicago Report under date of March, 1961 devotes its entire issue to **Robert Sanderson Mulliken**, Ernest DeWitt Burton Distinguished Service Professor. The following excerpts are taken from this publication: "Nearly half a century ago, a seventeen-year-old honor student stepped to the rostrum of the high school auditorium at Newburyport Mass., and delivered a graduation oration on 'The Electron, What It Is and What It Does.' The year was 1913; the same year that Danish physicist Niels Bohr announced his quantum theory of spectra. The youth was Robert Mulliken whose dedication to the electron and the quantum theory became his career. The pre-eminence of these two interests reflects itself through the years. When he established a laboratory for his research at the University of Chicago, it became the Laboratory of Molecular Structure and Spectra. And when he delivered one of his many scientific addresses last year, it was entitled, 'What Are the Electrons Really Doing in Molecules?' Professor Mark Inghram, chairman of the Department of Physics, introduced Mulliken to the autumn Conference for Industrial Sponsors of the Basic Research Program in the Physical Sciences as follows: 'Guggenheim Fellow . . . atom-bomb consultant . . . Fullbright Research Scholar . . . United States science attaché in London . . . oriental rug collector . . . Japanese print fancier . . . mountain-climber . . . father of two daughters.' Mulliken rose to speak as 'a scientific donor to chemical acceptors.' It has been an inspiration to all of us to watch Mulliken in action. His continuous long productive career sets a standard which will be difficult for the rest of us to follow."

The Springfield, Mass., News, of February 16 featured an article announcing the appointment of **Roger L. Putnam** as chairman of the Development Council of Newton College of the Sacred Heart. The article continues: "Mr. Putnam, a noted

industrialist and civic leader, served for three terms as mayor of Springfield. Boston College and St. Anselm College have awarded him honorary degrees. The late Pope Pius XII created him a Knight of Malta. Mr. Putnam also serves as Chairman of the Citizens Action Commission of the City of Springfield, and as chairman of the educational policies committee of the Massachusetts Board of Regional Community Colleges."

The Class of 1917 received special attention at the annual fiesta of the M.I.T. Club of Mexico City on March 9 to 12 by having the largest class representation. Those present were Lobby Lobdell and wife, Ray Brooks and wife, Bill Dennen and wife, and your secretary and wife. The fiesta was a most enjoyable affair. It started with a luncheon at the American Club for about 75 local and visiting M.I.T. Alumni. The ladies were royally entertained for lunch at the home of the club's president, Alvino Manzanilla '31. On Friday, the group convened at the Vazco de Queroga Hotel for dinner and a typical floor show in regional costumes. A garden party at the home of Sr. Madero brought to a very happy conclusion the formal fiesta events. The Madero estate was decorated with colored lights and special paper streamers with Mexican significance. Specially prepared Mexican food was served with an abundance of regular and special drinks to entice the visitors. Sightseeing around the city, including a Sunday bull fight performance, filled in the spare time. On Monday, the Brookses joined the McNeils in an automobile trip to Cuernavaca, Taxco, and Acapulco. After four days of silver buying, sun and ocean bathing in the Pacific, the McNeills left by air for Mexico City and from there by jet plane for New York and Hartford. The Brookses followed to pick up their automobile in Texas, and then off to California and Hawaii. The Dennens, who had travelled from California to Mexico by automobile, left for the U.S.A. to attend the April Centennial at M.I.T.

We record the deaths of three of our classmates. . . . **Luther S. Phillips**, who was in the publishing business in Maine, died on December 24, 1960 at his home in Ellsworth, Maine. . . . **Harold F. Powers**, aged 67 years, former owner of the Powers Construction Company, of Brockton, Mass., died on March 17 in a New York Hospital. Since 1946 he had been a civilian employee at First Army Headquarters in New York, in charge of maintenance for all Army posts in New England, New York and New Jersey. During World War II, he was employed by the First Service Command in Boston. . . . **Arthur K. Johnson**, 68, of Beverly, N. J., died January 20, 1961. He was a graduate of Course VII, Biology, and had been connected with chemical aspects of the textile business.

Among the random notes are the following: The Cooper-Bessemer Corporation, Mt. Vernon, Ohio, announced that **Leslie R. Groves**, retired Army lieutenant general, was elected a director of this maker of engines and compressors. . . . **Dr. Edwin E. Aldrin** was recently elected president of the Montclair, N.J., Rotary

Club. In connection with his Rotary service he was also chosen club delegate to the 52nd annual convention of the Rotary International in Tokyo, May 28 through June 1, 1961. . . . **Dix Proctor** and wife were due back from their ocean trip around South America on April 15. . . . **Neal Tourtellotte** reports from Fairbanks, Alaska: "The sign says 24 degrees above. Today it was 30 degrees top and zero, low, and yet at noon I did not even have an overcoat on. Up here on usual inspection trip." (U.S. Small Business Administration.) . . . Thirty-five per cent of our 370 class members contributed an average of \$37 each to the Alumni Fund in 1961, against an average for all classes of 25.3 per cent contributors and an average contribution of \$42.20.—**W. I. McNeill**, Secretary, 107 Wood Pond Road, West Hartford 7, Conn.; **Stanley C. Dunning**, Assistant Secretary, 1572 Massachusetts Avenue, Cambridge 38, Mass.

## '18

There comes a time when a man realizes he needs a new set of ball and socket joints. His mind may still be receptive and alert. Neither the arteries nor the heart may have hardened in the least. There may be no need of a crutch for a limping soul. But getting out of bed in the morning has lost its bounce. The hip and the ankle are like ground which has become brittle with the first frost. That's when it nears time to retire. . . . **Warren Scott**, the man who helped to start routine examination of all public water supplies in Connecticut, retired last February after 37 years with the State Health Department. When he joined the sanitary division in 1923 there was little statewide sanitary service. Now the prevention of water borne diseases, such as typhoid fever, is taken for granted. Warren has not only accomplished all this, but been in the forefront of establishing a sanitary code for the control of radiation and radioactive materials. There are even routine tests for air pollution, mosquito control, sewage control, and both salt and fresh water bathing areas. At the party in his honor given by the division employees, he was presented with some beautiful luggage which he says will be joyfully used in travels while the ball and socket joints still function acceptably.

After four decades of service with Sylvania Electric **John R. Fuller** retired, straightaway taking off in February for a month at West Palm Beach where he can sit in the sun and reflect on his service as engineer, purchasing agent, and divisional purchasing agent for the company's lighting products division. He, too, was honored by a farewell party. We wish we knew whether the planners of that occasion used their imaginations, tempered by discipline into near perfection, to apply John's connection with the proximity fuse during the late World War, to his present proximity to age 65. A past president of the Salem Kiwanis club, the Salem Chamber of Commerce and the New England Purchasing Association, Fuller serves on the committee

of the Junior Achievement organization. At the staff party, tribute was paid Fuller for his long and valuable service to Sylvania and for his many contributions to purchasing activities. Colleagues and associates at Sylvania presented a gift (exact nature not reported by our sources) as a token of their personal appreciation. Fuller lives with a daughter and son-in-law and three grandchildren. He has another daughter in Salem who is the mother of eight children. While in retirement he plans to continue his hobbies of gardening and woodworking and will spend much time at his camp on the Ipswich river in Middleton.

Our own sojourn to La Jolla, Calif., which had much of the pace and vividness of adventure, was in the nature of a job assignment rather than an activity of outwitting the inactivity of retirement. The task completed, we are now on our way home. In 12 weeks, southern California produced only four showers for us, but the day we left the heavens hid no secret regrets. It poured. The mountain pass in Arizona was snowbound the next day. After that came mixed rain, snow, and sunshine all the way to Colorado Springs. We visited the Meteor Crater, the Petrified Forest, and the Painted Desert in Arizona, and had a look at the Royal Gorge in Colorado, all worth seeing. Professional stopovers in Wichita and at the Olathe Naval Air Station in Kansas gave the automobile short breathers. I telephoned **Jim Flint** in Columbus, but he was at the M.I.T. Centennial Celebration. Now we are just outside Harrisburg where I shall spend 10 days with Quentin Berg '37, who started his own business in a garage 10 years ago, and now employs 75 men. Such progress is made possible with ideas which are alive and courage which looks for new fields to plow.

Courtesy of **Sax Fletcher** from the sunshine of Delray Beach, Fla., as well as from **Pete Sanger** from the altitude of his New York office, comes the news that **Frank Van Zelm** has achieved the ultimate retirement. He died in the North Adams, Mass., hospital on March 24. Frank never followed the Naval Architecture he studied at M.I.T., but instead created the comic strip "Farnsworth" in 1958. Previously, he had drawn "Rusty and Bub," a comic strip about a boy and dog, and had collaborated with J. P. McAvoy on "The Potters." From 1941 until 1951 he was editorial cartoonist for "The Christian Science Monitor" and also drew a comic strip called "The Vangnomes." During the twenties and thirties, he was a real estate dealer in New Rochelle, N. Y. In 1934 when he was living there, he saved a four-year-old girl from drowning who had fallen through the ice on his pond. He was a member of Delta Kappa Epsilon and the National Cartoonists Society. . . . As Pete says in his covering letter, I "must be hearing of these [deaths] with distressingly increasing frequency, yet it is all part of the great mystery: Where did we come from? Why are we here? Where are we going?" My answer is that the important question is "Why are we here?" My gardens, my woods, the whole face of nature shouts

the answer: growth. When growth stops death begins. This is as it should be. The tragedy is when death comes before growth is over. Ask anyone who has lost a child.—**F. Alexander Magoun**, Secretary, Jaffrey Center, N. H.

## '19

The February issue of the Second Century Fund newsletter has a picture of our **Chuck Drew** who has been working hard on the Fund in Minneapolis. . . . A card from **Aubrey Ames** says he has just returned from a three-month trip to Mexico. He says he is now in his sixth year of retirement, travels several months a year and makes unsuccessful attempts at improving golf. . . . **Edmund C. Adams** says he retired on August 1, 1960, as engineering manager for Gulf States Utilities Company, Beaumont, Texas, which serves the area between Houston and New Orleans. . . . **Wayland S. Bailey** has a new grandchild, making a total of six. I quote from his card as I think it may have special interest for many of us: "I'm still shipbuilding in the Central Technical Department of Bethlehem Steel Company, Quincy. Lucky enough to have considerable testing and development steered my way. Still miss my faculty life. Guess an old professor never quite gets over his teaching life! My experience strongly points up the importance of field work for teachers of engineering. Nothing else is equally effective in clarifying the ground that must be covered."

**M. C. Balfour** writes from New Delhi in the midst of a Far Eastern tour on behalf of the Population Council of New York. He and his wife left New York in early December and visited Japan, Philippines, Taiwan, Hong Kong, Thailand, Indonesia, Malaya and Ceylon, and on the way back will stop in Pakistan. . . . I had the pleasure of attending the M.I.T. Club of Mexico Centennial Fiesta in March. About 80 attended, and it was a very interesting pleasant program. In addition I had an opportunity to visit Mexico City and Oaxaco and enjoyed every minute of it. . . . Changes of address: **Oscar J. Fulreader**, 100 Thornell Road, Pittsford, from Rochester, N. Y.; **George F. Magraw** is now living at 14 Judson Rd., Weymouth 88, Mass.—**Eugene R. Smoley**, Secretary, 30 School Lane, Scarsdale, N. Y.

## '20

These notes are written as the M.I.T. Centennial Convocation has just drawn to a close. Would that every one of us could have attended this inspiring and beautifully organized affair! It would have added immeasurably to your pride in M.I.T. as it did, I am sure, to that of your classmates who had the good fortune to participate. Among these were Al and Betty Burke, Lee and Florence Thomas, Perk and Mina Bugbee, Mr. and Mrs. Harold Smiddy, Dr. and Mrs.

Dave Fiske, Ed and Mrs. Ryer, Arthur and Mrs. Winebaum, Bat and Mrs. Thresher, John and Mrs. Nalle, George Des Marais and his handsome son, Ernie Whitehead, Bob Patterson, Ed Stark, and R. P. Warriner. **Witold Kosicki's** loyalty to the Institute impelled him to put in an appearance in spite of the fact that earlier this year he was in a very bad automobile accident and, more recently, his wife has been seriously ill. At a happier time last fall, Mr. and Mrs. Kosicki and all seven of their children gathered in Detroit for the wedding of their youngest daughter, Rosalie, and for a celebration of their 45th wedding anniversary.

On April 6 **Perk Bugbee's** 40th anniversary with the National Fire Protection Association was fittingly observed by the hanging of a handsome Bachrach color portrait of Perk at the N.F.P.A. offices and by presentation of a suitably inscribed silver plate from his officers and directors. Perk's career as perhaps the leading fire prevention authority in the United States, if not the world, reflects credit on the Institute and his class and it is pleasant to see that it is duly acknowledged and appreciated while he is still active. . . . **Phil Brown** has been elected a vice-president of Hartford Accident & Indemnity Company. Phil was already a vice-president and director of Hartford Fire. He represents the company on the American Foreign Insurance Association and supervises the business of the Hartford Insurance Group in foreign countries. Phil lives in West Hartford.

**Bat Thresher** will be on the 1961 summer faculty of a special institute for training college admissions officers sponsored by the College Entrance Examination Board and Harvard University and located at Harvard. Needless to add, there is hardly anyone anywhere who is better qualified to import knowledge of this subject than our distinguished Director of Admissions at M.I.T. . . . **Mildred Coombs** has left Sanbornton, N. H., and is at 10 Museum Road, Boston. . . . **Charlie Klinger** has moved from Ft. Lauderdale to Milwaukee, at 1745 West Dean Road.—**Harold Bugbee**, Secretary, 7 Dartmouth Street, Winchester, Mass.

## '21

It's here! The double-header we've all been looking forward to,—our own 40th Reunion and the M.I.T. Centennial Alumni Day! If you haven't made arrangements for this unique brace of attractions, there's still time to phone or wire Reunion Chairman **Mel Jenney** at the address below for reservations for your wife and yourself at the Mayflower Hotel, Manomet Point, Plymouth, Mass., where the Class of 1921 will celebrate from Friday, June 9 through Sunday, June 11. You can also phone or wire the Alumni Office in Cambridge for tickets to the Hundredth Anniversary Alumni Day on Monday, June 12. Your guests are welcome, too, and you're all assured of a grand time if you have already made plans to be there or if you'll act right now to join the merry throng. Of course, if



you answered the April mailing from the Reunion Committee and sent your registration to **Chick Kurth**, you now have spots reserved for the Plymouth and Cambridge events, as well as accommodations in Boston. You know the basic program for the reunion and you have the preliminary list of those who will be there. Final returns are coming in at the early date of writing these notes, at a rate which indicates the preliminary list of more than 80 classmates will undoubtedly grow to exceed 100, not including wives, sons, daughters and other guests. **Ted Steffian's** sketches have been a most attractive feature of the reunion notices. The folder from the Mayflower Hotel is impressive in its promise of comfortable living in the midst of a paradise of facilities for just about any activity you can think of—set against a backdrop of lovely seashore surroundings. What can't be gauged by these words and pictures is the real happy time which this 1921 class group always affords each of its members at every class gathering we have ever attended. Come try this one and we'll bet you'll not fail to join the friendly group at every future opportunity.

If you sent in your Alumni Association ballot and voted for **Joe Wenick** and asked for Alumni Day information, you now know that "The University in World Affairs" is the theme of Alumni Day. See the new buildings and the newer ones; go visit your course headquarters. The annual family message of our distinguished President Jay Stratton '23, following the buffet luncheon on the green lawns of the Great Court will, in turn, be followed by a timely symposium in Kresge Auditorium. Visit with all of the classes at the social hour on Briggs Field and sit once more with 1921 at dinner in Rockwell Cage. Again the frosting on the cake will be a special evening performance in the Auditorium by Arthur Fiedler's Boston Pops Orchestra. You'll surely regret that the "Stein Song" signals the end of four all-too-short days of being "back home" with your best friends.

**John H. Driggs** writes from Long Beach, Calif., to say his address is 5901 East 7th Street. . . . Rear Admiral **Grover C. Klein** has retired from the Navy and has left Washington to take up residence at 123 Font Boulevard, San Francisco 27, Calif. . . . **Herman F. Finch** is the supervising structural engineer in the California State Division of Architecture and lives at 2900 Riverside Boulevard, Sacramento 18, Calif. . . . **Webster K. Ramsey** reports a new home address at 18 Daffon Street, Holden, Mass. . . . **Robert P. Stebbins** of the Warren-Anderson Company of Riverside, Calif., now lives at 5514 Jones Avenue, Arlington, Calif.

Lest you deduce from the last paragraph that all of our classmates are on the West Coast, here's a letter from **Robert S. Cook** of Ft. Lauderdale, Fla., which says, in part: "Just a brief note to report that I'll be coming north soon and expect to attend the reunion. We have seen **Helier** and **Graciela Rodríguez** several times and I have a date to take him fishing." . . . **Herb DeStaebler**, one of our most ardent contributors and a world

traveler of considerable stature, sends a note from Barbados, B.W.I., (written on the R.M.S. Mauretania in late March): "Hoh-oh-mahn-ah-whan-oo-ee, as you say in your Class Notes in the February Review. Hone-oh-loo-loo next year, maybe, hunh?" Dunno, Herb, but possibly you could sound out the boys and girls at the reunion to see if you get favorable reactions,—other than from the **Harry P. Field** family, of course!

After 22 years with United Illuminating Company, New Haven, Conn., **Charles A. Williams**, vice-president, has retired. Charlie joined us in Course VI after service as a Navy lieutenant in World War I interrupted his start at the University of Washington. Following utility experience in Philadelphia and Boston, he became United's treasurer and then vice-president in charge of sales, rates and distribution. He is a director of the New Haven Hospital, trustee of the National Savings Bank, a former president of the New Haven Chamber of Commerce and of the New Haven Rotary Club. He has also been a member of the City Plan Commission and a director of the Manufacturers Association of Connecticut. He has served as president of the United Fund and is currently chairman of the New Haven Chapter of the Red Cross. In the utility field, he has been active in many capacities with the Edison Electric Institute. Charlie and Ruth live in North Guilford, Conn., when they're not vacationing in Europe with the **Larc Randalls**. They have a married son and daughter and six grandchildren. . . . **Munnie and Alex Hawes** sent a welcome note from Madrid: "Left home on February 17, flew direct to Rome and spent three weeks in Italy, covering 1,000 miles in a Fiat 600. Then to the French Riviera and five days at Palma de Mallorca. Went to a bull fight yesterday and sat right behind Rex Harrison. We leave for Switzerland tomorrow, where we have a car waiting for us. See you at the reunion." Munnie's artistry with still and movie cameras ensures a vivid record of their travels in color for the lucky visitor to 320 Boston Avenue, Sea Girt, N. J.

On all sides we see and hear warm tributes to M.I.T. on its Centennial, April 10, the day these notes are being assembled. The Boston Sunday Globe has a beautiful 88-page magazine supplement devoted entirely to Technology, as was the 180-page magazine of the Boston Sunday Herald last fall. Foreign and domestic diplomats and academicians flock to the M.I.T. community to bask in Technology's glory. Television, radio and newspaper items pop up at various times, even under such surprising titles as "The Second Law of Thermodynamics." Following the close of the last item on the Cambridge centenary program, **Ray** and **Helen St. Laurent** phoned from Boston to describe the pleasure of having attended the Centennial Week observances at the Institute. "Impressive and enjoyable" seems to have been the consensus of the 47 members of the Class of 1921 and their guests who participated in the various events. For the banquet, they had exclusive use of the Blue Room at Walker Memorial. Three of the group were hon-

ored by invitations to march in the academic procession at the convocation. They were **Jack Healy** as national president of the American Institute of Chemical Engineers, Dean **Jack Rule** as the marshal of students and Professor **Manuel Sandoval Vallarta** as the representative of the Universidad Nacional Autonoma de Mexico, founded in 1551. Among the 21'ers present for the April ceremonies were: Jack and Elizabeth Barriger, Ed and Kathryn Delany, Fritz Ferdinand, the Rev. Father Ev Harman, Bob and Doris Haskel, Jack Healy, Roy and Anita Hersum, Dug and Betty Jackson, Mel and Anne Jenney, Algot Johnson, Norma (Mrs. S. Murray) Jones and her son, Malcolm M. Jones '57 and his wife, Amby and Ruth Kerrigan, Leon and Emma Lloyd, Ed MacDonald, Dick McKay and guest, Phil Nelles and his daughter, Patricia, Warrie and Helen Norton, Admiral Larry Richardson, Jack Rule, Ray and Helen St. Laurent, Steve and Mary Seampos, Saul and Regi Silverstein, Harold Stose, Sandoval and Maria Luisa Vallarta, Bill and Ann Wald, Al and Pearl Wechsler, Ev and Sarah Wilson.

**Edward R. Schwarz**, Fellow of the Textile Institute and Professor of Textile Technology at M.I.T., is the author of a comprehensive article entitled "Textile Components and Combinations," appearing in the February 16 issue of "America's Textile Reporter." Writes Ed: "Our ancestors could call the roll of textile fibers of major importance saying cotton, wool, silk, flax, hemp, jute and asbestos. To these have been added rayon, nylon, Dacron, Orlon, Vinyon, glass, as well as filaments from seaweed, soya beans, egg albumin and feathers, to mention but a few. The integration of components into combinations such as fibers into yarns, yarns into fabrics and fabrics combined for end use is now extended backward to the production of filaments themselves from atoms and molecules in combination. Man-made filaments are being produced with amazing uniformity and are being increasingly engineered to achieve physical and chemical properties best to serve the user's need." The article then goes into most interesting detail on the considerable technical progress which has been achieved and some of what remains to be accomplished. . . . **John B. Mattson** of Winthrop, Mass., is chief title examiner and deputy recorder of the Commonwealth of Massachusetts. He has two married daughters and two married sons and four grandchildren. . . . **Palmer Scott** is widely known for the success of Marscot Plastics, Inc., Fall River, Mass., especially in the boating field. He is also vice-president of George O. Day Associates, in charge of new developments. His daughter Thalia is in school, and his son Duncan is married and has three children.

**Dave Woodbury** had an excellent introduction via the book review in the April issue of The Review, covering his 16th full-size book, "Outward Bound for Space," (Atlantic Monthly Press, \$4.50), which, incidentally, is illustrated by Chick Kane '24. The reviewer, Professor Walter McKay '34, calls the work "inspiring, comprehensive . . . good per-



spective . . . skill in reflecting the views of specialists . . . technically correct." So much for the craftsmanship of this master painter with words. Now here's the real Dave as we know him: "I promised to send you a pastoral letter from Hawaii and didn't do it. Honest, I meant to, but I was so surrounded with hula girls that I couldn't get to the typewriter. And the sweet scent of hibiscus and taro root, blended with the sulfurous fumes of an erupting Kilauea, would have made a letter meaningless. Actually, we divided our six week 'vacation' equally between fighting our way up and down Waikiki Beach among the \$50-a-day hotel guests and fighting my way back from a severe virus attack. Hawaii is a fabulously beautiful place, of bright blue-green waters and soaring green mountain peaks covered with rain forest and shrouded in tradewind cloud. There's always a rainbow for it's always raining somewhere up there, and often down here, too. But the rain is a mist so fine that it soaks you through without the usual signs of a downpour, and frequently while the sun blazes down out of a clear sky. There are good roads throughout the island of Oahu. One can ride into the pineapple country or the sugar cane fields in a few minutes. Or one can travel to the west end of the island and watch giant waves smash against the coral beaches and occasionally see the natives riding surf boards. But the American tourist doesn't do this. He stays in Waikiki and slops 30 feet from the hotel restaurant to the beach in his shorts and then back to the bar and again to the beach. And that's it for him. I never saw a resort where my countrymen showed to such poor advantage. If he does get out to see a hula dance (usually put on for him in the restaurant), he sees one imported from New York with full nightclub trimmings; he pays full nightclub prices and seems to think he's seen Hawaii. We saw a good many hula dances. Everybody gives them. The best is sponsored by Kodak and they see to it that you have something to photograph. Sprightliest dancers are the Tahitians, who wiggle in the microwave frequencies.

"With this background, I tackled my new book about the ice ages and made surprising progress, working every morning for about three weeks until disease and the insidious tropical climate got the better of me. The latter, though explained and apologized for by my son, Pete, a Navy weather man, was a trifle disappointing. It rained harder than normal (he said); it blew much harder than normal; it was very much colder than normal—in short, it was abnormal. But then, we were encouraged with the thought that never have we been anywhere but the natives said it was 'unusual' weather. Maybe it blasts and rains and chills in Hawaii all the time. I don't think the citizens there even know it is going on. Why should they? They're tearing out their hair by handfuls trying to build Honolulu as big and as high as New York, to rival the Los Angeles freeway system in the number and length and solidity of their traffic jams and to com-

pete with the U.S. Government for inflationary honors. In the midst of it all go the happy tourists, shunted hither and yon by buses or on foot, wearing shorts which look like crazy quilts. When all is said, Waikiki Beach is artificial. They had to dig out the coral, which is like a vast collection of razor blades, and substitute sand from across the island before people could use it. Even now, every once in a while you sit down unexpectedly on a sharp blade, rise abruptly, thinking it is a broken beer bottle, to find the ubiquitous gnarled and moth eaten coral. Lava, coral and a discouraged limestone are the rockhound's delights in the islands. Rocks in the ordinary sense are unknown.

"Anyway, the book got a good start and somehow I think the ineffable island atmosphere will get into it!—not strongly enough, I hope, to melt the ice prematurely. I wrote one humor piece while I was out there that 'Down East Magazine' is going to print; one angry letter to the paper about a Drew Pearson column and about 100 picture post cards to friends back in the snow to encourage them to survive. It turned out an unpopular effort. This will give you an oblique view of the Hawaiian Islands as seen by an ex-engineer. I do regret, Cac, that I couldn't get hold of our classmate, **Harry Field**, though I tried. We'll expect to see you and Maxine at the June festivities." Thanks, Dave. We'll all look forward to seeing you and India at the reunion.

Regretfully, we record the passing of two of our classmates and extend to their dear ones the sincere sympathy of the entire class. . . . **Harold Theodore Reddish** died on April 18, 1958. A native of Cliftondale, Mass., he was associated with us in Courses I and XV and saw service in the Army in World War I. For many years, he had been a life insurance underwriter with Fidelity Mutual Life Insurance Company in Boston. He is survived by his wife, who resides at 108 Franklin Street, Melrose 76, Mass. . . . **Jack Holmes Waggoner** died on February 21, 1961. He had extensive experience in the ceramic industry, especially in the detail and development of glass manufacturing and the application of glass to specific uses. At the time of his death, he was a consultant to the Fiber Glass Division of the Pittsburgh Plate Glass Company. He held a bachelor's degree from the University of Kansas and was associated with us as a graduate student in Course V. He was an instructor in chemistry at the Institute from 1920 to 1921 and had held various technical and administrative positions with the Owens-Corning Fiberglas Corporation. He is survived by his wife, the former Marion F. Chutter, residing at 240 Quentin Road North, Newark, Ohio; two sons, Jack H. Waggoner, Jr., of Riverside, Calif., and Chandler C. Waggoner of Cincinnati, Ohio; a daughter, Mrs. Harvey E. Wahls of Raleigh, N. C.; a sister, Mrs. Donald E. Swan of Topeka, Kans; and a brother, Kenneth G. Waggoner of Alameda, Calif.

**Mel Jenney** phoned to say that everything is in apple pie order for your enjoyment of what will go down in history

as the Fabulous Fortieth Reunion of the Class of 1921. We're all looking forward to seeing you on June 9 through 12. Don't disappoint your friends or pass up this opportunity to see them. Whether or not you said you'd attend, hop the first plane and get in on the good time. Phone Mel if you need last minute information. NOW!! — **Carole A. Clarke**, Class Secretary, International Electric Corporation, Route 17 and Garden State Parkway, Paramus, N. J.; **Edwin T. Steffian**, Assistant Class Secretary, Larsen, Steffian, Bradley and Hibbard, 711 Boylston Street, Boston 16, Mass.; **Melvin R. Jenney**, Fortieth Reunion Chairman, Kenway, Jenney and Hildreth, 24 School Street, Boston 8, Mass.

## '22

During the April Centennial Celebration at M.I.T., representatives of the class of 1922 seemed to be having constant class meetings all over the campus. The banquet in Walker Memorial called together the greatest group. Among those attending were Parke D. Appel, Thomas S. Craig, Fred N. Dillon, Jr., Warren T. Ferguson, Whitworth Ferguson, John F. Hennessy, W. R. Hewes, Edward C. Keane, Lester C. Lewis, Julian Lovejoy, Leon S. Medalia, Fearing Pratt, A. H. Radin, Wm. W. Russell, Wm. A. Riley, Theodore Riegel, Theodore T. Miller, Archibald F. Robertson, Samuel M. Seegal, Florence W. Stiles, Kenneth R. Sutherland, A. Robert Tonon, and N. Conant Webb. Also on the campus were Frederic S. Blackall, Minot R. Edwards, George W. Heathman, Ronald G. Macdonald, John W. Strieder, M. Alfred Ulbrich, Harold C. Wagner; and, Donald F. Carpenter, C. Yardley Chittick, Crawford H. Greenwalt, Joseph H. Keenan, and K. M. Koch.

Headlined in the news from Woonsocket, R. I., was the announcement that **Walter M. Saunders, Jr.**, of Saco, Maine, had been appointed metallurgical director of the Taft-Peirce Manufacturing Company. **F. Steele Blackall** is chairman of the board. Walt was owner and director of a commercial metallurgical laboratory in Providence until 1955. He received his bachelor of science degree in 1922, his master of science degree in 1923, both in chemical engineering, and a doctor of science degree in physical metallurgy in 1939. He is a past president of New England Foundrymen's Association and past chairman of the Rhode Island Chapter of the American Society of Metals. . . . One of the Treasury's top awards, the Distinguished Service Medal, was presented to **Dana D. Sawyer**, Vice-president of the Federal Reserve Bank of Boston.

Our President, **Parke Appel**, was asked to write a letter explaining our class activities toward the 40th reunion gift and the plans for the class reunion in June, 1962. Here is the portion of his letter covering these subjects: "The Second Century Fund as you know, is a drive on the part of M.I.T. to secure capital

funds of no less than \$66,000,000. Part of this \$66,000,000 objective is to be \$4,000,000 for funded professorships, the need for which at M.I.T. has prevailed since the war, as a result of the substantial rise in the payroll costs of education. This is where our Class of 1922 40th Reunion Gift comes in. It will take the form of an Endowed Faculty Chair. Therefore, at such time as each one of our classmates makes any contribution to the Second Century Fund, I am urging him to designate that it be credited to the class of 1922 Endowed Faculty Chair. This will serve the purpose of meeting the objective of our class for its 40th Reunion Gift as well as the Second Century Fund. In striving to raise the required \$600,000 for our 40th Reunion Class Gift the administrative people at M.I.T. have agreed that all monies and pledges made by graduates of the class of 1922, or in their behalf, either contributed to the Second Century Fund or to the relief of faculty salaries, or to the Alumni Fund, will be credited to our class gift.

"Now, concerning our 40th Class Reunion. It will be held at the New Ocean House at Swampscott, Mass., from Thursday afternoon, June 7 through Sunday noon dinner on June 10, 1962. The New Ocean House is 10 miles north of Boston. It has every facility for relaxation, enjoyment and entertainment. It has an excellent swimming pool, a sporty new Par 27, 9-hole golf course for relaxed divot digging, as well as a championship 18-hole course within one mile called Tedesco, for the more serious golfers. We shall have a planned round of events both indoors and outdoors, which will include all kinds of provisions for participation on the part of members of the class and their wives. We shall also have trips available to most of the nearby Colonial landmarks of greater Boston. Following our fun at the New Ocean House on Sunday afternoon we shall descend upon the Tech Campus and be housed and fed at Burton House through breakfast Tuesday morning, as guests of M.I.T. On Sunday night we shall have a class activity such as the Boston Pops for enjoyment of all in attendance. Monday will be Alumni Day including formal activities of M.I.T. capped by the cocktail party in the late afternoon and a Tech banquet followed by an evening of entertainment. A very cordial invitation to our classmates, wives and members of their families is extended. It will undoubtedly be the outstanding affair in our class activity over the years since the fortune of economy, retirement and old age and the declining years will be catching up thereafter with us altogether too quickly.

"A descriptive memorandum on the reunion is being prepared on a suitable reunion letterhead with the names of many of our classmates forming a general committee to promote interest and attendance. As you know, we plan to make our Class of 1922 40th Reunion Gift in the form of an Endowed Faculty Chair the climax of our assembly. This will take place following the Alumni banquet in accordance with custom. At the present time we have total credits towards our Faculty Chair of little less than

\$360,000. I am very proud of this effort and feel confident that our class will raise its \$600,000 objective." . . . The Second Century Fund has given us an increased purpose which works out well with our class gift. Let us all talk-up the gift and the June, 1962 Reunion.—**Whitworth Ferguson**, Secretary, 333 Ellicott Street, Buffalo, N. Y.; **C. George Dandrow**, Assistant Secretary, Johns-Manville Corporation, 22 East 40th Street, New York 16, N. Y.

## '23

The highlight for April, of course, was the inspiring and thrilling Centennial Celebration at the Institute, and the opportunity for many members of our class to renew friendships and to listen to the words of wisdom from Jim Killian, **Jay Stratton**, Harold MacMillan and many others. Fifty-three members of our class and their wives sat down for dinner in the main dining room of the Walker Memorial after a tremendous cocktail party in the third floor gymnasium given by the president, our own Jay Stratton. . . . **Eduardo Icaza A** came up from Panama for the occasion and it was a special pleasure to see him after so many years. . . . **Arthur Davenport** and his fine wife, Phyllis, have finally moved back to the states. Arthur is with Stone & Webster and has been in Brazil building power plants for several years. He is currently building a new home in Virginia Beach and they are happy to be back in the U.S.A. . . . **Reginald Peene** and his wife, Louise, were down from Canada. Reg is now retired and spends quite a little time traveling. They spent the winter in England and Scotland and I found out that both the Peenes and the Davenports attended the M.I.T. party in Mexico City in March. . . . The following were in attendance at the Centennial: John and Helen Murphy, Reginald H. Peene and Louise Peene, David and Rose Kaufman, Alvin J. Sadow and Rosalind, William L. Searles, George W. Bricker, Jr., and Elizabeth J. Bricker, Doris and Pete Pennypacker, Mildred and Roy Wagner, Herb and Bernice Barnby, Phyllis Davenport and Dave Davenport, Hugh S. and Georgia Ferguson, Charles T. Burke, Helen and Bob Colburn, Eduardo Icaza A., Carolyn and Miles Clair, Joe Nissen and wife, Thomas and Alice Drew, Larry and Christine Tracy and daughter, Howard A. Lockhart, and Elisabeth M. Lockhart, Dorothy W. Weeks, Olcott L. Hooper, Charles Mongan, George N. Norris and Mildred A. Norris, H. F. Marshall and Mrs. Marshall, Dave Skinner and Isabelle Skinner, Herb and Kay Hayden, Dot and Ray Bond, George A. Johnson, Robert O. Johnson, Berdie and Ed Schmitz.

Just a little advance notice for you loyal members of the Class of 1923. The Chatham Bars Inn on Cape Cod has been reserved for our 40th Reunion, June 7-9, in 1963. Reserve the date. Let's have a big turnout. . . . **Ben Bullman**, according to the Portland Maine Express of March 1, 1961, has accepted the position

of industrial representative for the City of Portland at the salary of \$1 per year. Before founding the Massachusetts Heating Corporation in 1933, Ben was New England manager of the Cleveland Folding Machine Company. The Massachusetts Heating Corporation sells and installs large heating and power plant equipment for industrial firms. Ben retired about three years ago and moved to Yarmouth, Maine. In his new capacity he will serve as the official representative of the city in all efforts to attract new industry and business to Portland. . . . Your secretary received the following note from **Norman Weiss**, Course III, dated April 5: "I thought you might like to know that **Tamio Kasahara '23** and '24, director of C. T. Takakashi & Company, Ltd., of Tokyo, met Mary and me on our arrival in Tokyo this week. Tamio is in good health, and was kind enough to take some time off and show us the city, with the help of his son Tamije, age 27. Mary and I, incidentally, are taking a few days off in the Orient, after a business trip to Australia and the Philippine Islands. We'll be back in San Francisco on the ninth."

**Martin L. Tressel**, for the past four years national chairman of the United States Lawn Tennis Association's junior tennis development program, in February received the Samuel Hardy Award which is presented annually for outstanding service to the organization's educational program. The large sterling silver tray was given by the late Samuel Hardy. Tressel has received a small replica of the huge tray, but said he would leave the latter in the vault at USLTA headquarters. Tressel, an ALCOA official, has been very active in tennis for years, and in addition to his work both locally and nationally in junior development, has held a number of other USLTA offices, including that of president of the Northeast States region. . . . **Dr. Eger V. Murphree**, president of Esso Research and Engineering Company, recently addressed the American Chemical Society on the subject, "How Can Scientists Keep Up With Science?" He traced the tremendous increase in the Society's abstracts and the growth in the technical publishing field from 1930 thru 1960 to indicate the difficulty the technical man is faced with to keep abreast of his profession. He pointed out the necessity for selective reading, for attending selective technical meetings, for wider acquaintance with other people doing technical work, and for management to provide the environment for technical people to grow in knowledge.

A very interesting and informative epistle from **Alfred M. Perkins** was recently received. Al is an amateur composer, along with many other talents, and is currently located at 322 Linda Vista, Las Cruces, New Mexico. The Perkinses enjoyed an extensive trip to Europe in the spring of '59 and had some rare experiences due mainly to his talent and reputation as a composer. Here is Al's up-to-date story: "After graduation and brief employment with N. E. Tel. & Tel. Company, and Stone and Webster, I entered the Underwriters Bureau of New Eng-



land, staying with it and its successors a total of 18 years and eight months as a fire protection engineer. Resigned December 31, 1943 for health reasons and removed to Las Cruces, N. M., where one shovels neither snow nor coal and where there are few hills that must be climbed and hardly more stairs ditto. Operated a combination gift shop several years. Spent somewhat over a year as instrument man in the New Mexico State Highway Department, and on March 1, 1948 entered employ of Uncle Sam at (then) White Sands Proving Ground, first as a draftsman, later as operator of a specially designed data-gathering motion picture camera. After a heart attack in 1954 was relieved of necessity of field work (which by then had involved not only camera operation but also supervision of a battery of these cameras plus many other allied duties) and was given charge of all cameras of 'my' type, including calculation of the many required camera settings to cover required portions of missile trajectories, and in this capacity—plus other duties of office type—I remain to this date. Have had a raft of hobbies, ranging from amateur theatricals (performing, staging, scenery and props building, costume making, wig making and about everything else in the theatrical line except ballet dancing—let Mrs. Perkins do that), through silversmithing, minerals and rocks collecting, contributing to magazines (mostly rock-hounding subjects and some humor), ceramics, model ship building, and the latest—wood carving. As undercurrent throughout the years there has persisted the music hobby, principally military music and including much arranging of foreign music and considerable original composing, this hobby backgrounded for long periods but subject to not infrequent crescendos and quadruple forte outbursts. This has also entailed considerable military music research of various sorts; was recently very thrilled to be able to supply Major Deisenroth with a goodly stock of American fife and drum music of the revolutionary war period."

We regret to report the death of **George B. Pease** in Needham, Mass., on January 8, 1961. No details are available. . . . We wish to report the following address changes: **Frank D. Ahern**, 28 Station Plaza, Great Neck, N. Y.; **Ernest E. Fairbanks**, West Sumner, Maine; Brigadier General **William G. Manley**, M620 Arlington Towers, Arlington, Va.; **Oscar L. Perkins**, 66 Woodlawn St., Elmwood 10, Conn.; Reverend **Roy C. Sampley**, P.O. Box 482, Jensen Beach, Fla.; **Henry Uribe**, Fco E Davila y Cia, Santa Marta, Colombia, S. A.—**Herbert L. Hayden**, Secretary, E. I. du Pont de Nemours & Company, Leominster, Mass.; **Albert S. Redway**, Assistant Secretary, 47 Deepwood Drive, Hamden 17, Conn.

# '24

The big M.I.T. Centennial celebration has come and gone. Distinguished people from all over the world were here;

Macmillan, Rusk, Huxley, Oppenheimer, Salk, and many others. And among them, of course, were some '24 men. President **Hazen** of Robert College flew back to join the academic procession. . . . Corporation member **Hanley** also marched in the big parade. Saturday night was the alumni banquet (actually there were four of them) and there were 22 of us there, most with our wives. . . . Mr. and Mrs. **William D. Rowe** stopped by on their way from Greece to Tripoli. You will remember that Bill has been in Iran and Greece for several years for the State Department, trying to get their manufacturing on a paying basis. Now he's being shifted to Tripoli for the same purpose. . . . Others from outside the Boston area were the Joe Mareses from Texas, the Andrew P. Kelloggs from Schenectady, Pres Scott, Elko Honigman and the Schoolers from the vicinity of New York, and our worthy President and first lady, **Blay** and Kay **Atherton** from Nashua, N. H. By the way, there was a beautiful portrait of our president in a recent issue of the Scottish Rite News in New Hampshire. Seems that New Hampshire Consistory's "distinguished Commander-in-Chief, Illustrious Blaylock Atherton, 33°," was having a new class of candidates named for him. He has held so many Scottish Rite offices that we won't attempt to list them all, but those under his picture were: Past Sovereign Prince, Past Most Wise Master, Commander-in-Chief, and Honorary Member of Supreme Council.

Making his first visit to M.I.T. since 1924 was **Luang Videt-Yontrakich**, Education Counsellor at the Royal Thai Embassy, and we finally discovered why his name had been changed from S. B. Punyagupta. Prior to 1932 Thailand was a monarchy, and the king handed out titles and brand new names to the select few. "Luang" is a title, as "Sir" in England. Mrs. Videt was with him, dressed in colorful Thai silk, and they both seemed to enjoy the whole show. He stayed in the Boston area for the next few days, visiting his students at local colleges.

While the Videts were visiting here the **Lehrers** continued their merry way around the world visiting, among other places, Thailand. In Singapore they stayed at the Raffles Hotel, of course. That's where we left them last month. Nothing unusual about Singapore, said Ray, except their experiences with "a cute movie actress, a sultan, and an Indonesian trade ship." The actress turned out to be their guide, "and I hope my pictures turn out O.K. as she wore a tight chemise outfit split plenty high." The sultan was H.H. The Sultan of Johore who was honored guest at a cocktail party and had such a good time that he invited the whole gang to visit him at the palace. They went the next day, looked over the stables and private zoo, then had cocktails before noon, "the original gin slings, and very good, too," with "servants falling over each other." Sounds as though they'd been sampling in the serving pantry. And the ship turned out to be the Indonesian Floating Fair loaded with dancers and a variety of performers. In Bangkok they were struck by the

gun emplacements around the airport, all manned, and the number of American military aircraft, including jet fighters, in the area. They visited temples, the Golden Buddha, and Jim Thompson's home (the Thai silk man), saw Thai boxing and dancing, then went on to Rangoon and Mandalay. Surprisingly enough, there was no mention of either exotic foods or drinks. When they arrived in Calcutta they were greeted with great wreaths of flowers hung around their necks, "big enough for Kentucky Derby winners." Next day they took off for Darjeeling in the Himalayas, but foul weather prevented them from getting much of a view. At Kathmandu they saw a British expedition getting ready to take on Mt. Everest, drove up to Gangtok in Sikkim on the border of Tibet through huge tea estates, and had lunch in the palace grounds of the Maharajah while villagers gathered on a slope above to watch the strange foreigners. They went to Benares on the Ganges where they saw early morning bathers and burning ghats, and eventually made it back to Calcutta. Then south to Madras and Ceylon. Continued in our next.

Very little news to report in the line of business. **Paul Cardinal** has been re-elected treasurer of the National Vitamin Foundation, and that's really it. . . . Oh yes, three people who were here for part of the Centennial failed to make themselves known. **Bengt Kjellgren** was one, and the Rev. **Gertrude Harris** was another. Gertrude left her card with someone else. It identified her as director of the AWAKE department of the Koinonia Foundation, a Christian Enterprise for World Service. And we heard that **Jim Pearson** was also around briefly, probably in between geological forays.

It is with deep regret that we report the death of Kay **Barrett**. She and Frank rarely missed any class get-together, and her passing will be a real personal loss to a great many of us. To Frank and the girls goes the sympathy of the entire class.—**Henry B. Kane**, Secretary, Room 1-272, M.I.T., Cambridge 39, Mass.

# '25

M.I.T.'s Centennial Celebration brought many Members of the Class of 1925 to the campus, particularly to the Alumni Banquet held in connection with this glorious celebration. I was unable to join the members of the class for the banquet, since I was privileged to be at the Statler Banquet on this occasion. **Ted Butler**, who was here for the Alumni Banquet, has kindly supplied me with a complete list of those who were present, and it is as follows: Edward B. Alexander, 54 Terrace Drive, Binghamton, N. Y.; Willard J. Allphin, 24 Adams Street, Danvers, Mass.; Theodore H. Butler, 939 Southbridge Street, Worcester 10, Mass.; John M. Campbell, 1333 Glengarry, Birmingham, Mich.; Samuel Glaser, 234 Clarendon Street, Boston, Mass.; L. T. (Greg) Gregory, 122 Garden City Drive, Cranston 10, R. I.; Robert B. Hatton, 12 Stratford Road,



Andover, Mass.; James H. Howard, 3 Locust Street, Cambridge, Mass.; Edwin E. Kussmaul, 74 Highview Street, Westwood, Mass.; Mac Levine, 474 Salisbury Street, Worcester, Mass.; Colonel E. H. (Ted) Mitcham, Woodedge Farm and Kennels, P.O. Box 463, Middlebury, Vt.; Richard P. (Tom) Price, 5370 Wolf Road, Erie, Pa.; Avery H. Stanton, Frost Street, Natick, Mass.; Kenneth W. Proctor, Worcester County Electric Company, 939 Southbridge Street, Worcester 10, Mass.; Karl R. VanTassel, A. B. Dick Company, 5700 West Touhey Avenue, Chicago 48, Ill.; Samuel R. Spiker, G. R. Kinney Corporation, 221 Fourth Avenue, New York 3, N. Y.

**Ted Mitcham** dropped into my office and asked that I issue a general invitation to all members of the class to call on him in Middlebury, Vt., if you happen to be passing through. . . . Noting that **Karl VanTassel** was present at the Alumni Banquet brought to mind the fact that Karl, within the last month, has been elected president of the A. B. Dick Company of Chicago. He joined the company in 1956 as executive vice-president and becomes the first President of the Company not related to the founding family, and the fourth President since the Company was established in 1884. Karl is certainly to be congratulated on his new responsibilities.

In the February issue of The Review, we noted the death of **William L. Carroll**. It can now be reported that he died at Pottsville, Pa., following his retirement as vice-president of Finance for the Westinghouse Electric International Company in New York. He had been ill for an extended period. He joined the Westinghouse Electric Corporation in 1926 in its graduate student training course, and became associated with the International Subsidiary in 1928. In succeeding years, he served in various capacities in the Sales, Treasury and Accounting Departments, and then moved up the line from assistant treasurer to director and treasurer; and later, vice-president of Finance. . . . It is with sorrow that we announce the death of another classmate, **Arthur E. Kunberger**, who died in Baton Rouge, La., on January 25, 1961.—**F. L. Foster**, Secretary, Room 5-105, M.I.T., Cambridge.

'26

It doesn't seem that a month has passed but here we are again on the 8 P.M. jet to Philadelphia with the Class Notes folder before us. This past weekend has been the all important one at the Institute—the Centennial. Since The Review will give complete coverage, we will mention only a few highlights involving classmates. (The Captain has just announced that one of the generators is not functioning. He has killed the engines and we are sitting on the ground while the electricians tinker. I have yet to get off on schedule on a jet, but it does give time to write Class Notes.) To return to the Centennial: **Jim Killian**, of course, shared the major role with Presi-

dent Julius Stratton. Impressive as ever, Jim's speeches will be covered elsewhere so I will not duplicate. However, as you read them you should observe the specific methods of expression Jim uses. I always listen attentively to Jim's speeches awaiting his carefully selected phrases that convey meaning in a manner that leaves nothing to one's imagination. Would that I could express my ideas as clearly. My first glimpse of **Dave Shepard** was when he was finding his seat before the Macmillan speech. Dave was in the distance but towering above the vast crowd as usual. As chief marshal, Dave opened and closed the Convocation on Sunday afternoon. I was unable to get to the Convocation but was able to watch it on television and thereby had a better than front row seat. Dave's outfit was the most outstanding in the procession. I only wish that I could have seen it in natural color. I'm sure Sir Francis Drake never owned one more regal nor has any procession ever been led by a more impressive Chief Marshal, but the class of '26 would expect nothing less. The attendance at the Alumni Banquet was 30, as follows: Pink and Mary Salmon, George and Ruth Smith, Ben and Evelyn Richardson, Jr., Reginald and Gabrielle Wakeman, Edward Wayne, Chet Buckley, Paul Buckley (son), Harvey and Mrs. Abbott, Fred and Mildred Broughton, Mr. and Mrs. Abe White, Barney Gruzen and wife Ethel, Bob and Ruth Dean, Bob and Evelyn Dawes, Morris L. Minsk and lady guest, Graham Davidson, Al French, A. P. Gabrenas, Domenico Sicari de Amicis, Elton Staples. Of the above, one classmate whom we had not seen since graduation was **Reginald Wakeman**. We caught up a bit because he sat across the table from us at dinner and we met his charming wife, Gabrielle, whom he wed in Paris in 1931. (The jet just took off after 45 minutes tinkering which always makes one a little uncomfortable. It was the nearest to a vertical takeoff I've ever had, but now we are up through the overcast and the stewardess has brought my coffee so I can continue the flight in noisy comfort. It's my first tourist jet flight and it is noisy back here.) Back to Reg Wakeman, who was made V.P. and director of research of Onyx Chemical Company a few months ago. At the time **Dudley Parsons** sent me a news release which I can now use with greater meaning after renewing an acquaintance of 35 years ago. Here's a quote from the news release: "With over 70 U. S. patents granted or pending, Dr. Wakeman brings to Onyx Chemical a vast experience and accomplishment in the field of Organic Chemistry and Chemical Engineering. He received his Ph.D. in Organic Chemistry at the Massachusetts Institute of Technology in 1930 after having received his B.S. and M.S. in Chemistry at the same school in 1926 and 1927 respectively. He continued his research abroad at the University of Paris and later at the Eidgenossische Technische Hochschule in Zurich, Switzerland. Dr. Wakeman returned to this country in 1932 as a research chemist for the National Aniline & Chemical Company. In 1935 he became a senior re-

search fellow at the Mellon Institute of Industrial Research in Pittsburgh, Pa., and joined the predecessor of Onyx Chemical Corporation, known then as the Onyx Oil & Chemical Company, as director of research in 1945. In 1951 he left Onyx to become technical director for the Quaker Chemical Products Corporation in Conshohocken, Pa. Most recently he was director of technical research and development for the Packaging Corporation of America in Grand Rapids, Mich. He is a member of the American Chemical Society, Societe de Chimie Industrielle, Textile Research Institute, and the Sigma Xi fraternity. Married since 1931, Dr. Wakeman makes his home at 1830 Rittenhouse Square, Philadelphia, Pa."

Here is a quote from a recent letter from **Walter Lobo**: "Your note in the April Technology Review reminded me that I have intended to write you about the month I spent last summer in the Soviet Union as chairman of a six-man mission, sponsored by the Engineers Joint Council, and financed by the National Science Foundation, to see what we might learn about the utilization of engineers and engineering technicians in the U.S.S.R. Since our host was the Ministry of Higher and Secondary Specialized Education, we learned more about the training and distribution angles than we did of the utilization. However, our itinerary, taking in Moscow, Leningrad, Kharkov, Rostov-on-Don, Baku, Tashkent, and Samarkand, was exceedingly interesting and the visit will be remembered for a long time. Since our return, I have talked to many groups on our findings, but the 'authoritative' report will be issued formally by EJC in the near future." . . . You see these little reminders do help keep the notes going. By the time you read this issue we will be at our 35th reunion and I will have an opportunity to review friendships with many of you. I'm truly looking forward to it, with a holiday planned in Bermuda between now and then. I'll see you at Harwichport! . . . Today's Wall Street Journal carries the story that **George J. Leness** has been named president and chief administrative officer of Merrill, Lynch, Pierce, Fenner and Smith, Inc. Sincere congratulations from the class, George!—**George Warren Smith**, Secretary, c/o E. I. duPont de Nemours & Co., 140 Federal Street, Boston, Mass.

'27

This interesting letter was received from **Bill Taggart**: "My wife and I have just returned from the Fiesta in Mexico City and it was all that it has been 'cracked up' to be. The M.I.T. Club of Mexico City went all out to organize an interesting and extremely well-run party. The people are most gracious to begin with, which made it all the nicer. Not connected with the Fiesta at all but just by happenstance, the first person I recognized when I got off the plane in Mexico City was **Erik Hofman**. He was at the airport to meet a business associate and was as surprised to see me as I was

to see him. Erik and I have met on only four occasions since graduation. The first time was about 1947 when I stumbled across his feet in the American Club in Buenos Aires while he was taking his siesta. The next time was about 1952 when I was coming down in the elevator in a small hotel in Naples and Erik and his wife got on. They were in Naples for just overnight as I recall it and it really was quite a coincidence meeting them. The third time I think was at our 25th Reunion, and then this final time in Mexico City. I wonder where I'll next bump into him? Erik looks fine and has all the old bounce that he used to have. Time does not seem to have caught up with him and yet he is talking about retirement in two or three years. To get back to the Fiesta; I cannot recommend it too highly. Lobby and his lovely wife Conchita were there and, naturally, added a great deal to the occasion. I hope to go again some day."

In connection with solicitation for the 1961 Alumni Fund, the Progress Report as of February 28 indicates that our class shows an average contribution of \$169. This compares with \$75 for the class of '25, \$43 for '26, \$35 for '28, and \$41 for '29. Our average contribution for 1961 to date is considerably better than that of 1960, which was \$78 for our class. . . .

**Lenvik Ylvisaker**, who has been general manager of the Continental Can Company's metal research and development department, has been recently named vice-president in charge of research and engineering for that company. . . . **Dr. Harold E. Edgerton's** name appeared again in the news, as being one of four additional directors elected by the Board of Directors of Wyle Laboratories, El Segundo, Calif. . . . **D. S. Miller** covered the subject of "Electron Microprobe Studies" at the California Institute of Technology Conference held the latter part of March in Pasadena, Calif., on "Application of Modern Techniques to the Study of the Structure and Properties of Metals and Alloys." Don is assistant director—Physics, E. C. Bain Laboratory for Fundamental Research, United States Steel Corporation.

The April 2 issue of the Boston Sunday Globe's rotogravure section covered an interesting write-up on "M.I.T.—1861 Centennial 1961," and we notice the names of four members of our class appeared in connection with ads by the firms with which they are associated. An ad devoted to Edgerton, Germeshausen & Grier, Inc., mentions that more than 100 of their upper echelon scientific and engineering people, including the three principal officers, are graduates of M.I.T. . . . An ad for Massa Division of Cohu Electronics, Inc. (of which **Frank Massa** is president), says that as a result of its diversified electronic developments, it has just completed its third expansion since its establishment in 1945. . . . Also, an ad for Chas. T. Main, Inc., Consulting Engineers, gives a listing of its M.I.T. graduates, among which we noticed the 1927 names of **Winthrop M. Puffer** and **J. Anthony Santangelo**.

It is with regret that we announce the death on March 19 of Rear Admiral

**Leslie A. Kniskern**, U.S.N., retired, at the Naval Hospital in St. Albans, Queens. He commanded the New York Naval Shipyard in Brooklyn from 1956 until his retirement in 1958. From 1939 to 1944, he was an official of the Navy Bureau of Construction and Repair, renamed in 1940 the Bureau of Ships (after consolidation with the Bureau of Engineering). In that post, he was responsible for the preliminary design of 20 classes of warships. From 1944 to 1945, he was in charge of all ship designs for the bureau. The Legion of Merit was awarded to him for his ship design work. In 1946, Admiral Kniskern received a commendation for work in connection with the Bikini atom bomb tests. He was the principal adviser on the arrangement of the target ships "to obtain the greatest possible significant results from both tests." After the detonation of the two bombs, he had a key role in connection with the work of the task force involved. A native of Muskegon, Mich., he graduated from the United States Naval Academy in 1922 and later received an M.S. degree at M.I.T. In November, 1946, he assumed command of the Puget Sound (Wash.) Naval Shipyard. He later commanded the Philadelphia yard, was Navy shipbuilding representative in Europe, and was inspector general of the Bureau of Ships, stationed in San Francisco, from which post he came to Brooklyn. He held citations from France, Britain, Chile and Argentina. After retiring from the Navy, he served as a vice-president of Gibbs & Cox, Inc., naval architects and marine engineers. He lived in Manhasset, L. I., and is survived by his widow, the former Mary Poyer, and a son, John, to whom we extend our deepest sympathy.

We also announce the death in Glen Head, N. Y., on November 21, 1960, of **J. Elwood Tweeddale**. Regretfully, we have no details on this. A native of Boston, Jack joined Electrical Research Products, Inc., after graduation, and worked with electronic acoustic vibration analysis serving as consultant to Port of New York Authority and New York Board of Transportation. In 1942 he went to Bell Telephone Laboratories and, in 1944, to Western Electric Company, Inc. Our last direct contact with Jack was the 25th Reunion Questionnaire, at which time he indicated that he had married in 1932, and was still associated with the Western Electric Company.

**Dr. Royal Weller** has sent us a note entitled: "Weller Newsletter: Our friends and others may be interested to hear that we have decided to vacate the Frozen North of Rochester and seek our fortune elsewhere. Since we gave up the Christmas card habit a couple of years ago, some sort of notice like this seems in order. Since Roy resigned from General Dynamics on February 15 we are taking our first real vacation since 1936. This is being written in St. Petersburg, Fla., where we are exploring the country via light airplane, although it may not get printed and distributed until we are somewhere else. Those who still love us or who think we owe them something can always reach us through Charles L. Weller, 12 Fairwood Farms Drive, West

Hartford, Conn., and after we light somewhere we will publish a new address in due time. At the moment we do not have any definite prospect in mind nor will we concern ourselves with such matters for a few more weeks unless we get hungry. So if anyone needs a pair of deckhands for a voyage to the South Pacific just drop us a line.—Roy and Betty Weller."

The following up-to-date addresses of classmates were recently received: **Peter J. Jerardi**, 5 Valley Road, Beloit, Wis.; and **Victor Severs**, 16 Groningsstraat, The Hague, Netherlands.—**J. S. Harris**, Secretary, Shell Oil Company, 50 West 50th Street, New York 20, N. Y.

## '28

This is the end of Centennial Week and a busy one it has been at the Institute. During the celebration, a number of our classmates were on hand including the following: Maury and Rose Beren, Jack and Eleanor Chamberlain, Jim and Frances Donovan, Norm Foster, Carney and Dorothy Goldberg, Bob and Helen Harris, Bill Hurst, Ralph and Florence Jope, Bill McClintic, Al and Helen Richmond, and Rudy Slayter. Elbridge Atwood was indisposed and unable to attend but his wife, Beryl, attended for him. . . . Relative to the Centennial observation and the Second Century Fund Drive, our good classmates **Art Josephs** and **George Palo** have generously volunteered their services. Art is area chairman for Minnesota and north; George is area chairman for Tennessee. To you both, our sincere admiration and best wishes. Undoubtedly, there are others of our classmates who are participating in the program and we would welcome reports from them.

A news release from the public relations office of E. I. duPont de Nemours & Company, Inc., tells us that **W. Grier Armstrong** has been appointed senior research chemist in the company's Pigment Department. The department recently established this rank to recognize technical accomplishment. Prior to joining duPont, Grier worked for Certain-Teed Products Corporation of New York and National Manufacturing of North Tonawanda, N. Y. He is a member of Sigma Alpha Epsilon fraternity, the American Society for Testing Materials, the Federation of Societies for Paint Technology, and is the author of various technical papers on pigmentation of paints. It is a great pleasure to hear that a classmate has been recognized and honored. Our congratulations and best wishes to you, Grier. . . . The Berkshire Eagle of Pittsfield, Mass., of March 16 carried the portrait of **Nathaniel Herbits** and the news of his appointment as chairman of the Jewish Community Council. Taking charge of an important assignment is no new experience for Nate. He has been president of several local organizations, chairman of the constitution committee of the former Pittsfield Community Council, member of the executive committee of the New England Region, Council of Jewish



Federations and Welfare Funds, and has served on the Pittsfield Traffic Commission. When working for himself, Nate conducts his own insurance business in Pittsfield. . . . **Ralph Joep** has received a long, newsy letter from **George A. Flynn**. We think we should hold this one for the next issue so as to do it full justice. Be assured, however, that George is full of enthusiasm and is enjoying his large family immensely.

With regret we must report the death of two of our classmates. Both died on the same day, March 18, 1961. **Edgar P. Taylor**, who was in Course X, had positions with Westinghouse Corporation, Flintkote Company, and Lancaster Chemical Corporation. His home was in Upper Montclair, N. J. The death of Col. **John A. MacLaughlin**, also Course X, was reported to us by his wife from Aberdeen, Md.—**Walter J. Smith**, Assistant Secretary, 15 Acorn Park, Cambridge, Mass.; **George I. Chatfield**, Secretary, 11 Winfield Avenue, Harrison, N. Y.

## '29

The Class of '29 had an exceedingly good turnout for the Centennial celebration on April 7-9. As you all know, the celebration itself was a great success, agreed by one and all. Attending were the following: John and D. A. Wilson, Course XV—John, as you all know, is general chairman of the Second Century Fund; H. K. Asbed, Course X, and his guests, Mr. and Mrs. Duckham; King Couper, Course XV, who is a new oceanographer with the government in Washington; Karnig Dinjian, Course XVII, in the contracting business here in town; Gus Nicholson, Course VI, and his son, Gus, 3rd—Gus is a civilian engineer with the U. S. Navy at Newport, R. I.; Charlie Frank, Course XV; Al Harris, Course IX C, and his wife; Isabel and Larry Horan, Course IV A, who is in business in nearby Belmont; Russ (Course II) and Chris Shannon; Danny O'Connell, Course I, a contractor and Special Sheriff in Hampton County, Mass.; Frank (Course VI) and Mary Mead—Frank is with New England Telephone and Telegraph; Mary and Jack Osborn, Course XV; Hunter Rouse, Course I, Professor in Civil Engineering at the University of Iowa, Iowa City; Bill (Course I) and Val Whiting—Bill is Special Hazards Engineer for the New England Fire Insurance Rating Association and has recently been appointed to the Fire Protection Committee of the Greater Boston Chamber of Commerce, as well as serving on many committees in the National Fire Protection Association; Dave Wilson, Course XV, manufactures women's lingerie here in Boston; Joe Speyer, Course XV; Fran and Paul Donahue (Course IV A), who is in the building contracting business in Lynn; Jim and Marie Fahey—Jim, Course VI, is with the Haverhill Gas Company; Wally (Course XVI) and Joan Gale—as all of you know, Wally is Associate Professor in Aeronautics and Special Administrative Assistant at M.I.T.; Nina and Dick Coveney, Course XV—

Dick is with Arthur D. Little in their New York office; Fritz (Course X) and Dorothy Meissner—he is Professor of Chemical Engineering at M.I.T.; Fred (Course XVI) and Marjorie Celler, who, I understand, are about to take up permanent residence in Paris, though we know no more details, as Fred could not attend the banquet; Paul Gill, Course XV, now with Whitin Machine Company in Whitinsville, Mass.; Otto Wolff, Course II, Chief Engineer at Polaroid. It was good to see so many at the Centennial. If the Class responds as well to the Second Century Fund as they have to the Centennial, we will go over the top.

We had a note from **Eric Bianchi** just before the Centennial, saying that he and Kay were taking off for six weeks in Europe and would not be able to attend. We missed them both. . . . Also received a note from **Ed Farmer**, who tells us that he had a recurrence of his coronary condition back in December and, with the rough winter we have been having, decided to take the sun in Florida for several months. Ed's getting along fine, and we all wish him a speedy recovery. . . . **Mac McDaniel** has written so say that his company is closing their plant in Newark and that he and Betty are moving to Toledo the first of May. Mac is with the Coated Fabrics Division of Interchemical Corporation. We had hopes of seeing Dot and **Ed Powley**, but Ed wrote to say that they had urgent family commitments on that weekend, precluding their coming to Boston. Ed is now national manager of dealer sales for Cities Service in New York, a position requiring a great deal of travel across the country. We wish Ed all the success in the world. . . . Expect to see many of you at Alumni Day on June 12.—**Fisher Hills**, Assistant Secretary, 62 Whittemore Avenue, Cambridge 40, Mass.

## '30

It is gratifying to be able to report that there has been a vernal upsurge in the responses to the letters that I have been sending out. This month's returns have run about 30 per cent, as compared with last month's nadir, a discouraging 8 per cent. One item revealed by these returns is the apparent demise of the 30th Reunion grandchildren record, which you may recall was a tie between **Joe Preble** and **Dick Phillips**, each of whom had three. Assuming a status quo ante reunion in the Preble and Phillips families, the honors in this department will have to be shifted to **Cul Cullinan** and **Doc Crosswell**, who report four and six respectively. Cul is district airport engineer for the Federal Aviation Agency in Portland, Maine. He has two sons, W. Gordon and Stephen E., and a daughter, Carol Ann, who is the mother of the four grandchildren. . . . Doc, who is also a Maine man, is engineer for the State Highway Commission and lives in Farmington Falls. His son Glendon, who is father of four of the grandchildren, is in the Engineering Department of N.E.T. & T. Co. in Boston. His daughter, Mrs.

Merle Green, has two children. Doc is a director of the Water Company and a radio ham.

We have at hand a sprightly communication from **Marsh Cleary** listing the manifold activities of his offspring. Marsh is Construction Engineer for Anheuser-Busch, Inc., with responsibilities in the contract, budget control and quality specification fields. He lives in Manchester, Mo., with his family comprising a wife and five exceptionally energetic daughters. Judith Ann, 21, is listed as the mother of two children as well as being a nurse and lifeguard. Marsha Theresa, 17, is high school trampoline champion, a speed typist, a diving instructor, attends x-ray school and has a professional trapeze act. Noel Frances, 15, operates a baby sitting agency in her spare time. Meredith Ann, 13, is a baby sitter and car washer and Mary Victoria, 8, is listed as "dish washer." Marsh's own avocations include horses, boats, and a model railroad pike. However, his principal preoccupation at present seems to be "steering daughters toward farm boys (land capitalists) and away from city boys (credit card clubbers)." . . . **Harvey Chapman**, who with his wife Norma attended the reunion last June, is chief engineer, Product Engineering Department of Evans Products Company of Plymouth, Mich., manufacturers of railroad loading and other material handling equipment, bicycles, velocipedes, and bus and truck cab heaters. His son Harvey, Jr., attended Ferris Institute and is presently with St. Paul Fire & Marine Insurance Company—**Gordon K. Lister**, Secretary, 530 Fifth Avenue, New York 36, N. Y.; **Ralph W. Peters**, Assistant Secretary, 249 Hollywood Avenue, Rochester, N. Y.; **Louise Hall**, Assistant Secretary, Box 6636, College Station, Durham, N. C.

## '31

All of you who know **Howard Richardson** will be pleased to learn of his election as president of The Stanley Works, New Britain, Conn. Until a year or so ago, Howie had spent most of his business life with Sylvania Electric Products, Inc., where he was senior vice-president in charge of the Electronics Systems Division when he left to become executive vice-president of Stanley. The Stanley Works is fortunate to have someone with Howie's abilities and talents at its reins and, judging from his happy smile and comments during Tech's Centennial, Howie and his family are thoroughly enjoying New Britain. . . . Speaking of the Centennial, your class was well represented. **Larry Barnard** and his wife were on hand and it was a pleasure to see them again. **Wy Boynton** and Mildred, his wife, were there, still looking as young as ever, although I suspect that Wy may be considering membership in our "count your calorie" club. **Eugene Branca**, who is now head of the Mathematics Department of Boston Latin School, and **Martin Feeney**, principal of the First District, Boston Public Schools, ably represented the educational contin-



gency of our class, as did **Lou Hessel-schwerdt**, who is a professor in the Mechanical Engineering Department at Tech. Lou, who preceded me as your secretary, and I spent a few minutes commiserating with each other on the problem of getting our classmates to let us know when something interesting happens so it can be included in the Class Notes. **Ken Germeshausen**, another of our illustrious classmates who is a faithful class of '31'er, and his wife, were also at the Centennial. Ken was very thoughtful of my daughter, Babbie, during the banquet and I understand they had quite a philosophical discussion. **Dan Johnson**, who went on to obtain his M.D. after finishing at Tech and is now a practicing physician, won't be able to attend our 30th Reunion as he is leaving for a trip to Germany on June 10. He will be missed at the Reunion but we hope he has a pleasant trip. Another peripatetic classmate at the Centennial was **Charley Rankin**, who is planning another trip around the world. Charley is a physicist with the New York State Police Laboratory in Albany. **Larry Lovett** and his wife and **Otto Kohler** also were at the Centennial but unfortunately we didn't have a chance to get together. **Russ (Albert R.) Pierce** and his wife, Alice, report that their oldest son, Al, is in the service; the twins, Richard and Robert, are working; and their youngest, Edward, is attending Tabor Academy. Russ has as many interests as ever and still maintains his ham radio. Attending the Centennial also were **Al Ziegler** and his wife. They have four children, two girls (17 and 19) and two boys (14 and 22). Al is with Colorado Fuel & Iron Corporation in Palmer, Mass. Last, but far from least, among those present at the Centennial was your hardworking chairman of your 30th Reunion Committee, **Hal Gurney** and his wife. Hal says all of the plans for the Reunion have been completed and that the returns indicate we'll have a big turnout. If you haven't already made plans, drop a note to **Ralph H. Davis**, 60 Congress Street, Boston 9, Mass., and let him know you'll be there.—**Edwin S. Worden**, Secretary, 6 Murvon Court, Westport, Conn.; **Gordon A. Speedie**, Assistant Secretary, 90 Falmouth Road, Arlington 74, Mass.

## '34

Happy am I to report for The Technology Review this month, with congratulations in order for two classmates. . . . **David Ingalls** of 10 Kimball Circle, Westfield, N.J., was elected a director of the Premier Microwave Corporation at the annual meeting of the Board of Directors held in New York City in January. Dave has been active in the electronics industry for many years as president of Airtron, Inc., and will continue to serve Premier Microwave as an advisor to its officers in new product development, acquisitions and marketing policies. This is only one of several business activities that Dave is conducting in the electronics field. He is associated with Engineers, Inc., in New-

ark, N. J., a firm active in the design and engineering of industrial plants and office buildings. In addition to holding many patents and being a member of IRE, he is also a director with Malaker Laboratories, Inc., of Mountainside, N.J. As you know, Dave Ingalls formed Airtron, Inc., in 1946 to produce radar plumbing and other microwave equipment. Under his leadership, the company grew until it occupied six plants in Linden, N.J., with some 1,000 employees at the time he sold the business to Litton Industries, Inc., in 1958, becoming vice-president of Litton Industries, Inc. He is continuing his many associations in the electronics industry, with emphasis on the development of new products and new businesses. The Class of '34 is indeed proud of its member.

**Eric J. Ibister** was appointed vice-president, Engineering, of Radiation Incorporated located in Melbourne, Fla. He will assume responsibility for all design and development activities of the company. Eric was formerly chief engineer of Sperry Gyroscope's Surface Armament Division in Long Island, N.Y. He is experienced in the field of search and tracking radar, ranging from anti-personnel surveillance for the Army Signal Corps to the huge SAGE complex for the U.S. Air Force. His experience includes radar systems engineering for the Navy's Terrier and Talos missiles, and work on a wide variety of digital and analog fire control and missile guidance computers. Considered an authority on Merchant Marine radar, Eric was instrumental in establishment of the Loran "C" program in use by the Navy and the Coast Guard. He holds a certificate of commendation from the Navy "for his contributions to the development of equipment for radio navigation, aircraft, and marine radar." Joining Sperry in December 1934, Eric advanced to chief engineer of the Surface Armament Division in January, 1957. He holds more than 20 patents for servomechanisms and navigation aids. He has served for many years as an educational counselor for M.I.T., has done similar work for the American Institute of Electrical Engineers, and has had published numerous technical articles on marine navigational aids. A native of New York City, Eric has settled in Florida with his wife and three daughters.

**Jim Eder** attended the Centennial in Cambridge in April and sent in the following report on '34 men and their wives who were present: "At the M.I.T. Centennial Celebration banquet our class was extremely well represented. Most of our class had their wives with them and some had their sons. It was interesting to see how polymers tied together three families who happened to sit together: **Warren Kunz's** son-in-law, Dale Rice '54, was found to be working on polymers for his doctorate at M.I.T. Across the table, **Art Leydon** said he was working in polymers for container sealants at Dewey and Almy. Next to him sat **Leonard Shapiro** who, in Beacon Chemical Industries, has been working in the field of polymer and synthetic detergents since the trend for floor waxes has been away from natural waxes and resins. Leonard's son Joel at-

tended the banquet but still felt that he made the proper choice in deciding in favor of Case Institute of Technology instead of M.I.T. **Johnny Hrones** must be doing wonders at Case, because Joel is a fine person who also knows M.I.T. through a summer job at the Naval Supersonic (wind tunnel) Lab. Leonard's daughter, Margery, plans to enter Pratt Institute to study art next year.

**Irving Kusinitz** is exploring electrical power sources for electronic and thermoelectric devices such as refrigeration with no moving parts, which is the direct conversion of electricity for cooling. He'd like to talk or work with anyone in this field. He still lives at 27 May Street, Marblehead, Mass. . . . **Walt Wrigley** still continues his intense interest in inertial navigation and says his book on this subject was well received, particularly abroad. It is rumored it has a Russian translation but so far Walt has not received his complimentary copy. You might expect Maj. Yuri Gagarin would at least drop Walt a note for helping guide him around the world. There is no excuse; Walt can read Russian. . . . **Margaret Zaroodny**, now Mrs. Arthur Freeman, continued to amaze us all with her versatility. She is teaching scientific Russian. At the same time she has an M.I.T. Language Laboratory appointment and is now studying the importance of a broad frequency range of hearing as related to ability to learn a language. But her interests as to how people learn a language go much, much further. Her eldest son is a second-year graduate student at Brown, interested in poetry. Her youngest son is a freshman at Oberlin. . . . **Dick Bell** now looks like a football player in his prime, rather than a track star. He must move fast, being president of four Bell Companies: Bell Clay in Tennessee; Kaolin in South Carolina; Minerals in Miami; and Research in West Virginia. . . . Major General **Robert G. Butler** (Ret.) now is division administrator for Itek's Research Division. He says he's trying to be human and be worthwhile in a civilian job. . . . **Simon Malkin**, who is director of Engineering Materials and Processing Labs at Raytheon, has become a grandfather. His son, Stephen, is a sophomore at M.I.T. . . . **Bob Roulston**, who is manager of Contracts at Raytheon's Electrical Service Division works hard at fixing up his old house while his three boys, ages four to eight, probably counteract his efforts. To give himself a respite in the summer, Bob takes them away to camp and hike."

It is with deepest regret that I send news now of the death of **Joseph Kaye**, Professor Mechanical Engineering at M.I.T., on March 20. Professor Kaye was highly regarded by his students, the government, for which he was a consultant, as well as members of industry. Our deepest sympathies are with Mrs. Kaye and her family.—**Harold E. Thayer**, Secretary, 415 West Jackson Road, Webster Groves, 19, Mo.; **M. S. Stevens**, Secretary, Patent Section, Room 20B-131, M.I.T., Cambridge 39, Mass.; **J. P. Eder**, Secretary, 1 Lockwood Road, Riverside, Conn.; **G. K. Crosby**, Secretary, Longwood Road, Huntington, W. Va.

Our class had a full table, 26 classmates and 18 wives, at the Centennial Banquet April 8, the best turn-out of any class. Here are some bits and pieces picked up: **Bernie Nelson** had dinner in New York with **Carlos Lavenas** prior to the latter's leaving for Venezuela. The Lavenases and the **Dick Jarrells** each have a freshman daughter at Antioch. The **Vin Ulrichs'** daughter is looking forward to college in the fall. **Ham Dow** is busy helping launch the "Bainbridge" scheduled for April 15, while **Jim Eng** is trying to make more and better cutting tools. **Johnny Demo's** son is at the University of Rochester with M.I.T. Graduate School as the goal. **Arthur Deming** is plant engineer for Hamilton Standard. At least two of our 35ers are in Real Estate: **Dave Cobb**, who is still asking you to send him pictures of last year's reunion, and **Nelson Thorp**, who boasts a 10-month old grand-daughter. **Phoenix Dangel** is product manager of Electrical Specialties with the Kendall Company in Walpole, Mass. He has three sons, one a freshman at M.I.T. and two attending Roxbury Latin. **Bissell Alderman** is a partner in Alderman and MacNeish, Architects, who, among their many projects, designed the Weston High School. **Art Marquardt, Jr.**, is now chief engineer of the C. E. Crofoot Gear Corporation, **Ben Beede** is with Norfolk Iron Company in Quincy, and Dr. **Edgar Staff** is with the Rhode Island Department of Health. The **Macklen Kleimans** have good reason to be proud of their son Steven, M.I.T. '61, who has been awarded a Woodrow Wilson Fellowship as well as a National Science Foundation Fellowship. He is going to study at Harvard for his Ph.D.

The **Bill Abramowitzes** have three daughters and one son. Bill, besides learning more about women from his young daughter, is busy selling plastic pipe for Carlon Products Corporation of which he is Chairman. The **George Reeves** are trying to keep up with the activities of their three: Michael in Little League tryouts, Jeff at Roxbury Latin, and Jane who enters Radcliffe in the fall. The **Max Wassermans** have a son at Case Institute and two daughters aged 13 and 16. Max has recently merged his firm with American Cyanamid. **Howard Beck** (BTU Engineering Corporation) has recently built an addition to his plant in Waltham. The widening of Route 128 governed the direction of the expansion. **John Hossfeld** is a department manager in United Shoe's Research Division at Beverly, while **Ed Prohaska** is located with Avco. (I have dedicated all the late news in these notes to Ed.) I cannot leave the subject of the banquet without complimenting my classmates (and myself) for our excellent taste in the choice of wives. They added color, beauty and charm to our table and most of them looked as though they belonged at the Class of '45's table. We shall have to have these gatherings more often.

District Secretary **Ned Collins** sent in a sheaf of copies of letters he has written

to our Indiana and Michigan classmates along with the following interesting news on his own activities: "A couple of weeks ago I was on the West Coast on a survey of the California potential for a chain of Nursing Homes and I ran into **Harry Cobden** of our class in Sacramento. Although unfortunately our time was very brief, it seems that Harry has his own Consulting Engineering firm, with offices in San Francisco, Los Angeles and Melbourne, Australia. Being a staunch supporter of Governor Brown, he has done what more of us should do, namely assist our elected representatives to do a better job rather than beef about their shortcomings. He is Secretary of the Buildings Standards Commission of the State of California with extensive responsibilities in the field of housing, schools, welfare, etc., and is to be admired for applying his hard-earned practical knowledge and experience in the field of public endeavor. If you would like to write to Harry, his home address is 2149 Circlemount Road, Sacramento, Calif. . . . As soon as I get some answers back from the enclosed letters I will promptly forward them for the class notes." . . . Many thanks for your letter, Ned. We shall be looking forward to reading the replies you receive.

District Secretary **Dave Cobb** journeyed to the Southwest end of his district and sent in the following on a number of our classmates: "Written requests for news, even when accompanied by an addressed and stamped envelope, having been ignored, and long distance telephone calls being a jolt to the pocketbook, I decided to swing around by Providence the other day and see what could be done to pick up some choice tid-bits. Through various 10-cent telephone calls and personal visits, I discovered that **George** and **Ginny Peterson** had dodged the flight engineers' strike, and had just flown in from Florida by Northeast. George's sister has a house right on the water down there. . . . The **Ellis Flinks** have made a few trips to the New Hampshire ski areas this winter with no broken bones reported. Their son, James, is doing very well scholastically at Tech where he is taking Food Technology, and is a member of the Freshman track team. Daughter Joanne is also getting good marks at Classical High in Providence. Ellis hopes that any classmates 'who make the mistake of coming to Providence' will give him a ring. . . . **Walt Green** is up to his ears in work at Industrial Dyestuffs, turning out photographic intermediates under the watchful eye of Ken Dorman '34. . . . I killed the better part of an hour talking things over with **Fred Lincoln** who still reports 'no news,' but if any of you are sitting on any General Chemical's plastic lined H<sub>2</sub>O<sub>2</sub> drums, he would like to get them back. . . . **Ken Young** says the only thing of importance that has happened to him since last summer was a 10-day cruise to the Virgin Islands. . . . A Freshman year classmate is **Kenneth B. Sherman**. He is married and has two daughters, one married and one at Lincoln High. In 1932, he got into a business which involves the preservation of human tissue with formalde-

hyde or similar chemicals. If any Tech alumnus in the Providence area is not feeling too well lately, Ken would be glad to give you details on this 'lay-away' plan. . . . **Ed Guerin** has followed the family worsted business south from Woonsocket, and has been living in Port Gibson, Miss., for the past couple of years. . . . **Hal Oshry** of Steel Industries, Inc., Crawfordsville, Ind., has just sent me a very interesting brochure on what they are doing in the line of cold extrusion for the more economical production of small metal parts."

**Lars Ekwurzel** has recently been appointed creative director at Persons Advertising, Inc., New York City. He added some news on his announcement card: "I've just graduated a son, Lars, from Columbia as a geologist who, like all the rest of the crop, is looking for a job with social meaning as well as technical. The rest of the family includes Jinnie Jean, my Wagnerian soprano wife, and a son and daughter, both in Junior High School." . . . **Charles P. Bowen, Jr.**, formerly partner in charge of the Eastern Region of Booz, Allen & Hamilton, has been named managing partner responsible for coordinating the activities of the eight U. S. offices of the management consulting firm. Charles is being moved to the national headquarters in Chicago from the New York office where he has been located since 1957. He joined the company in 1944.

District Secretary **Gerry Golden** dropped me a note: "Incidentally, I worked Honolulu the other day and, strangely enough, the chap at the other end was at the Ordnance Department and knew **Larry Stone**, so I asked him to have Larry send me some 'dope for the Class Notes.' A brief note from **Sadie Hurlick** who lives in Everett says: 'Am in a cotton textile selling organization representing southern mills in New England. I belong to Eastern Star, M.I.T. Women's Association, Fine Arts Museum and Ford Hall Forum. Have a teenage son studying radio and electronics.'"

District Secretary **Ham Dow** writes: "By way of a bit of news from the South Shore, attached are a couple of news clippings that speak for themselves. Until March, 1960, **Al McDonald** headed the Bethlehem project with which we are working very closely to get the nuclear powered frigate, USS Bainbridge, built and due to be launched on April 15. Since then I have seen little of him and he will move his family West when school ends in June. I have an offer that you can publish. We still have about 25 copies of our 25th Reunion Book (some returned undelivered). While they last, I will be glad to send one to any classmate who did not receive one who sends me two-bits (25¢) to cover postage." . . . The clippings referred to tell of Alfred McDonald's appointment as superintendent of drafting at the Bethlehem Steel Company's San Francisco yard. Al was born in Lancashire, England, and came to the U. S. in 1930 to join us at M.I.T. He is married and has three daughters.

You, too, can assist in making these notes interesting reading. Telephone, write or call on your nearest secretary



now, before you forget. **Edward C. Edgar**, Kerry Lane, Chappaqua, N. Y.; **Hal L. Bemis**, 510 Avonwood Road, Haverford, Pa.; **Elmer D. Szantay**, 6130 N. Kilbourn Avenue, Chicago 16, Ill.; and **Gerald C. Rich**, 673 Rosita Avenue, Los Altos, Calif., Regional Secretaries.—**Allan Q. Mowatt**, Class Secretary, 11 Castle Road, Lexington 73, Mass.

## '37

At the March meeting of the Alumni Council we had a miniature class reunion with **Phil Peters**, **Joe Heal**, **Ralph Webster**, **Tom Kinraide**, **Dick Young**, **Tom O'Brien** and **Bob Thorson** in attendance. . . . **Dick Young** has recently moved from Cleveland, Ohio, and is with **Arthur D. Little, Inc.**, in Cambridge, Mass. **Dick** spent nine months, a couple of years ago, in Brazil, setting up an operation for **The Steel Improvement and Forge Company** of Cleveland. He and his family are now living at 14 Skyline Drive, Wellesley, Mass. . . . **Joe Heal** reports that we have had a good assist from the Second Century Fund solicitation toward our class gift, but that we still have a sizeable job to do to collect the funds necessary to make the Class of 1937 gift one of which we will all be proud.

**W. Gardner Barker**, President of **Thomas J. Lipton, Inc.**, has been elected a director and named chairman of the finance committee for the **Fifth International Food Congress, Inc.**, which will be held at the **New York Coliseum**, September 8 through 16, 1962. . . . **James D. McLean** has been named president of **General Dynamics/Electronics**, a new division of **General Dynamics Corporation**. . . . **Curt Powell**, Associate Professor of **Naval Architecture and Marine Engineering** at **M.I.T.** received his doctor's degree from the **University of Genoa, Italy**, after graduation, from **M.I.T.** **Curt** then joined the **Bethlehem Steel Company** at **Quincy, Mass.**, in their **Shipbuilding Division** and was there until 1948. He was head of the **Engineering Section, Development and Research Branch, Central Technical Department**, which he left to join **M.I.T.** for a professorial assignment. **Curt** has authored many papers, including "Estimation of Machinery Weights" and "Propulsive Effects in Rough Waters." . . . **Norm Robbins** has been promoted to chief of reconnaissance projects for **Convair**. **Norm** and his wife **Christine**, with their two children, live in **Forth Worth**.

**Ernie Ferris** has been promoted to chief engineer and is in the process of building a new home for his wife **Alyce** and their three boys. . . . **George Ewald** and his wife **Elinor** now have four children, the youngest born December 2, 1960. **George** is with the **J. P. Stevens Company** in **New York City** and he mentions that **Olie Pike** is now general manager of **Shuford Mills Packaging Division**, **Hickory, N. C.** . . . I hope many of our class will be at this year's **Alumni Day**. Also, be sure to plan for our **25th Reunion** in 1962 which, from all indications, will be an event you and your family will not want to miss.—**Robert H.**

**Thorson**, Secretary, 506 Riverside Avenue, Medford, Mass.; Professor **Curtis Powell**, Assistant Secretary, Room 5-323, **M.I.T.**, Cambridge, Mass.; **Jerome Salny**, Assistant Secretary, Egbert Hill, Morristown, N.J.

## '38

Last month's notes got skipped because of a move from an apartment to a house. Now that things have settled down a bit perhaps I can be a little more consistent in meeting the deadline. Incidentally, now I am about three blocks up the street from **Harold Strauss**. He promises to assist in getting some news into these notes in the near future. . . . **Welcome Bender** is author of an article in the February issue of **Aerospace Engineering**. **Welcome** has been director of the **Research Institute for Advanced Study (RIAS)**, a division of the **Martin Company**, since its organization in 1955. His article discusses at some length the activities and philosophy of his organization. . . . We have quite a few clippings and news releases this month. One clipping discussing the political atmosphere in **Portuguese Angola** mentions **William Gibson**, the **American Consul** there in the city of **Luanda**. . . . Another mentions that **Norman Weeks**, who is with **Raytheon Manufacturing Company** has been named director of **Potter-Chamberlain, Inc.**, of **Gilford, N. H.**

The **American Meteorological Society** has presented the **Carl-Gustaf Rossby Award for Extraordinary Scientific Achievement** to **Victor Starr** for "his more than a decade of outstanding fundamental research leading to a better understanding of the general circulation of the atmosphere." . . . At ceremonies observing the 150th anniversary of the **Massachusetts General Hospital**, **Dr. Rodolfo Herrera** was one of 15 doctors who were presented citations and commemorative medals. . . . **Charles Donlan**, who is an associate director of **NASA's Space Task Group of Project Mercury**, has been appointed associate director of the **Langley Research Center**. Except for a two and one-half-year period **Charles** has served on the staff at **Langley** since graduation. . . . **Forrest Judkins** has been made manager of manufacturing for **General Electric's insulator department** in **Baltimore**. He has served in the company's **Pittsfield Plant** for 21 years and was superintendent of assembly and test there since 1956. . . . **Saul Jacobson** has been promoted to **President of Bowling Division of Brunswick Corporation**. He is also a vice-president and member of the board of directors of the corporation.—**David E. Acker**, Secretary, **Arthur D. Little, Inc.**, 1424 Fourth Street, **Santa Monica, Calif.**

## '39

Attendance at the **Centennial Celebration** brought rewards to many classmates in the form of inspiration and re-

newal as well as of camaraderie. And a direct reward to me was a notebook so full of notes on 39-ers that I'll not try to get them into this first issue. Here they come, in much-abbreviated form and in the order in which I chanced across men—and wives—during the three-day weekend of April 7, 8, and 9. . . . **Michael Herasimchuk, XIX**, is metallurgical engineer of the **Operating Vice-president's Staff, Bethlehem Steel**. His specialty is forgings and castings, and he is closely associated with vacuum de-gassing of molten steel for heavy forgings. **Mike** and **Jean** have two boys, **Peter**, six, and **Jon**, three, and live at 1736 **West Union Boulevard, Bethlehem, Pa.** **Mike** is very active in **M.I.T.** affairs: he is regional chairman of the educational council as well as honorary secretary of the **Bethlehem area**. His team consists of seven alumni as counselors, and they interview 25 or 30 prospective **M.I.T.** freshmen each year. **Mike** passed along word of **James W. K. Yee**, also **XIX**, at **Aerojet-General** in **Sacramento**, and of **Walter May**, **Course II**, who is chief engineer of **Mack Truck**, in **Allentown, Pa.**

**William Wingard, IX-B**, '39's prexy, is process research manager for **United Carr Fastener, Cambridge, Mass.** **Doc** is certainly keeping on top of his job: he's attending **Northeastern University** nights to take advanced mathematics, partial differential equations to be specific, and says that he's really having to dig deep in order to re-educate himself and keep up with the latest technology! **Doc** and **Anita** live at 26 **Blythedale Street, Newtonville, Mass.** **Mary Jane, 20**, is president of her sophomore class in **Manhattanville College, Purchase, N. Y.** **Bill, Jr., 16**, graduates this year from **St. Sebastian's Country Day** in **Newton**. **Patty, 16**, is a sophomore in high school, and **Joseph, four**, is also "helping to run the family." . . . **Aaron** and **Sylvia White**, as well as **Carl Lenk**, I saw momentarily after one of the **Centennial** conferences, and thought I'd see them later at the alumni dinner to get **Class Notes** material. But we missed connections. Will each of you drop me a card for a later issue? . . . **Martin S. Lindenburg, VI-C**, is part owner of **Kalco Weaving Corporation**, a **New Bedford** weaver of rayon fabrics for dress, curtain, and lining material. **Martin** and **Mary** live at 244 **Carroll Street, New Bedford, Mass.** **Mary** is the one here with the current news item: As an amateur artist, she has successfully co-sponsored a bill through the **Massachusetts Legislature** proclaiming the last week in **May** of each year as "**Massachusetts Art Week**" and a similar bill, **Resolution #338**, is making its way through **Congress** in the hopes that a **National Art Week** can become recognized.—**Oswald Stewart**, Secretary, 31 **Birch Road, Darien, Conn.**

## '40

After a dearth of news last month, the hopper is full! **Kap Kapinos** writes: "I resigned from **Package Machinery Company** on **Inauguration Day**, and my new



horizons are outlined on the enclosed sheet. I have a co-operative arrangement on the portion involving machine design with Kenneth H. Pond, who has done this work since the thirties. He has operated from an office on Main Street in Springfield, and I am presently operating from an office in my home. Despite the fact that he is a Bowdoin graduate, I know the quality of his work, and am happy to have the connection. As you know, starting a new business is a slow and painful experience after leaving a steady salary. I have done five short-term jobs which have spanned the three fields listed on the enclosed sheet describing Acorn. Our Valley Tech Club is suffering a case of lack of meetings due to the preoccupation of the administration with matters involved in the big Fund campaign. I am a participant in the drive, and have been a regular worker in fund activities every year in this area. Out of about 10 men of '40 in the area, I see only **Dick MacPhaul** and **Ed Wallace** occasionally. Dick is doing well in a sales engineering position with Springfield Wire and Tinsel Company, and Ed is president of his own company, producing quality grass shears under the Wallace name. It is good to read your column in *The Review* each month, and I hope that the boys continue to keep in touch. Our welcome mat is on the doorstep for any who may be passing by."

Kap is president of Acorn Engineering Company in East Longmeadow, Mass. The sheet he mentions describes Acorn as: "A new approach to engineering creativity from a small, unburdened atmosphere." They offer profit-making machine design or redesign, manufacturing methods analysis, and plant and equipment acquisition surveys. For larger shops their company can relieve proprietary engineering departments of overloads, and accomplish special machine design and machine building in economical, small shop surroundings. For smaller shops they provide a high degree of technical competency on call, eliminating fixed costs. They have a working relationship with a number of qualified small shops where economical manufacture of machines is accomplished under their supervision. Executives and engineers are free to examine progress at any time, and the result is that a single purchase order delivers a machine design and a proven machine. Prior to setting up Acorn, Kap had worked for Package Machinery Company for 15 years and at the time of his resignation was assistant supervisor of research.

As those who attended the reunion will recall, **John Joseph** is the owner of Brrr Products Company, Inc., makers of various Blockbuster toys. In addition to sending attractive literature on the various Blockbuster products, John writes as follows: "Just now, I am in the process of expanding my business, the Brrr Products Company, you will remember. I introduced a new toy, the Blockbuster Kitchen at the recent Toy Fair, and the reception was such that I am now going into production on this item. This is not as simple as it sounds, as I have to double my warehouse space and expand my op-

erations all around. As with any new venture, the decisions that have to be made are grueling and I will certainly be glad when this year is over, and I have found whether the decision to expand was worthwhile or not. My son, Ben, is now completing his freshman year at the University of Pennsylvania. Next year, we will again have a Joseph in the high school as my daughter Jean enters her freshman year. We are now out of the grade school level as my youngest, Claire, enters junior high school. My wife, Louise, and I had an enjoyable 11 days this winter in the Caribbean. We took a cruise on the Israeli ship 'Jerusalem' and really had a wonderful time."

Col. **William Meany** is now in charge of the San Francisco Ordnance District. . . . **Cedric Ridgely-Nevitt** who did graduate work with us on a Society of Naval Architecture and Marine Engineers Scholarship was noted in the SNAME News for his successful career in this field. After leaving Tech, he spent 10 years in two different shipyards and in the naval architecture firm of Kindlund and Drake. For the past 10 years he has been on the faculty of the Webb Institute. He is also the author and co-author of four papers in the naval architecture field. . . . **Bob Stocker** has been elevated to the position of executive manager of the New England Fire Insurance Rating Association.

The Class of '40 continues to reach the top. . . . **M. Spalding Toon** is the new president of Ohio Barge Line, Inc., Pittsburgh, Pa. . . . **Andrew Bayle** is now a staff engineer, Technical Operations, at Mitre Corporation in Bedford, Mass. . . . **Bill Steber** has been promoted to chief engineer (Surface Armament) of Sperry Gyroscope. He is responsible for the development and design of the surface armament division's products and also for the engineering portion of divisional sales efforts. . . . **Phil Clapp** is the author of an article on the long view of the weather in the *Harvard Alumni Bulletin* for February 18, 1961. This article is concerned with long-range weather forecasting. For those of you who are unhappy with the weather, get in touch with Phil, or come to Washington. There is a saying that if you don't like the Washington weather, just stay around a few hours and it'll change.

**Jeoh Pei** has received the 1961 Brunner Award of \$1000 of the National Institute of Arts and Letters. This award is given for excellence in architecture. Jeoh is with I.M. Pei Associates in New York, and among his more recent projects are the design of the new offices for Webb and Knapp in New York, Mile High Center in Denver, the Denver Hilton Hotel, the Green Center for the Earth Sciences to be built at Tech, and the Multi-Airline terminal at Idlewild Airport. . . .

**Walter Brewer** has been appointed assistant general manager of the Engineering Division of the Aerospace Corporation. Aerospace serves as a technical arm of the U.S. Air Force in ballistic missile and space programs. Previously, Walt had been with Atlas Airborne Systems Department at Space Technology Laboratories, Inc. . . . **Bill Stern** is now sales

manager of Itek Electro-Products Company. Bill had directed international marketing and regional sales for the Brush Instruments Division of Clevite Corporation.—**Alvin Gutttag**, Secretary, Cushman, Darby & Cushman, American Security Building, Washington 5, D.C.; **Dr. Samuel A. Goldblith**, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge, Mass.

## '41

Lieutenant Colonel **Norm Shapira** has been named chairman of the Chemical Committee, U. S. Army Infantry School Command and Staff Department at Fort Benning, Ga. Norm has held a series of posts concerned with chemical and nuclear warfare, including those of commandant of the army's Chemical-Radiological-Biological School, and of chemical officer and nuclear adviser to the Allied Land Forces, Southern Europe. The Shapiras have 10 children: does anyone challenge this as the class record?

. . . **Howie Samuels**, a strong second with eight children, has been elected to the board of directors of the Rochester Telephone Corporation. Howie is president of the Kordite Division of National Distillers and Chemical Corporation of Macedon, N.Y., manufacturers of plastic products. . . . **Lloyd Wilson** spoke at a meeting of the I.R.E. Long Island Section of the Professional Group on Instrumentation, on: "Important problems of Current Interest in Instrumentation and Precision Measurement." . . . Research and development procedures for a small company were discussed by **Austin Fisher**, Executive Vice-president of Ludlow Papers and Ludlow Plastics of Lexington, Mass., at Colby College's Tenth Annual Institute for Maine Industry. . . . **Herbert Newey** has been appointed a research supervisor at the Shell Development Company in Emeryville, Calif., specializing in plastics and resins.

We report with regret the death of **John Remick** of a heart attack, on March 21 in Washington. A meteorologist with the U. S. Weather Bureau since 1946, John was an expert on hurricanes, and had been attached to the Emergency Warning Section since 1956. He had previously been stationed in Detroit, New York, and Iceland. He served in the Air Force during the war, and held a commission as a lieutenant colonel in the Air Force Reserve. Unmarried, he is survived by his parents. . . . The death of **Frederick Look** has also been reported. No details are available at this time.—**Ivor W. Collins**, Secretary, 9 Sunnyside Drive, Dalton, Mass.; **Henry Avery**, Assistant Secretary, Pittsburgh Chemical Company, Grant Building, Pittsburgh 19, Pa.

## '42

While the cold weather was still very much with us this letter came in from **T.Q. Eliot**: "This is to advise you that I

am making the twenty year round trip back to New York via Oklahoma and Texas. I have been with Texas Butadiene & Chemical Corporation here in Houston for three years but feel the call of the greener pastures in New York, though they may be buried under six feet of snow. I will be working with Scientific Design Company, Inc., at their executive offices at Two Park Avenue, New York." . . . Your secretary-treasurer is also headed for New York and is now working around the corner from Wall Street.

The M.I.T. Centennial celebration was a grand affair and provided a great many interesting and stimulating conference sessions. The enthusiastic discussions went on through every meal and far into the evening. Saturday evening's alumni banquet brought out a sizeable delegation of '42 men and wives. To allow maximum time for pleasant conversation I collected business cards and asked that each be filled up on both sides with additional personal notes. There were many more present than listed below—next time I shall try to get a card or slip of paper from everyone. . . . **Jerome T. Coe** interrupted his Florida vacation to be with us. Jerry is general manager of the G.E. Silicone Products Department and he gave us many insights into the G.E. management policies and organization. . . . **Morton Goulder** is with Sanders Associates which he helped found in 1951. He and Claire have six children, five boys and one girl, and many animals with country living. Sanders is largely in electronics defense business. Mort seldom runs into the crowd except at reunions. He and Claire are looking forward to our 20th. . . . **Harvey Kram** is assistant vice-president of Leviton Manufacturing Company of Brooklyn and their subsidiary, American Insulated Wire Corporation of Pawtucket, R.I. Harvey's wife Elly came, too. . . . **Joseph McHugh** is vice-president of W.J. Grosvenor & Company, The House of Mouldings in Somerville, Mass. Joe and Elizabeth have two children, Bernard, eight, and Anne, seven. They live in Watertown and are active in the Somerville Hospital Building Fund and the United Fund Campaigns. . . . **Bill and Dot Pease** are living in Wellesley. They have several children including Robert M., born last June. Bill has been with RCA Burlington for the last three years and was one of the organizing committee of the Route 128 Club of M.I.T.

**John Reed** came in from Columbus, Ohio, for the Centennial. At the cocktail party he filled me in on the North American A3F Navy jet. The Reeds have two boys, seven and nine. He has been with NAA for 10 years (Missile Division, Dayton Office for the past four and one-half). Problems include establishing company objectives for 10 years in the future and planning to attain these objectives. "Poor location in Columbus for family who likes to ski, which we do. Have to travel to Stowe every winter for skiing vacation." . . . **Franklin P. Seeley** is a partner in Technical Electric Sales Associates, representatives for lighting and power equipment, with headquarters in downtown Boston. "Moved to Wayland last

summer with three children, Tom 18, Susan 15, Sarah 10. Edie, wife, still best looking member of family. I'm still a fine slim 190. (And he still has all his blond hair.) Just finished 20 years in Naval Reserve. Still shooting 95 and striving for 80." . . . **Edward O. Vetter** is president of the Metals and Controls Division of Texas Instruments, Inc., in Attleboro. "We moved to New England two years ago from Houston. There are six of us living in Barrington, R.I. As an old New Englander I am trying to show my California wife the joys of shovelling snow, but so far she is too smart for me." Ed was recently elected to the Executive Committee of the Alumni Association. . . . **Carl Zeitz** has several business ventures. His new card is from the Worcester Corrugated Products Corporation of Webster, Mass. They are manufacturers of corrugated packaging materials. . . . Also present were Al Dengler, Al Goldis, Marty Levene, Milt Platt, Stan Golembe and wives. I later found out that Herb Howell had been laid low with the mumps.

Dr. Killian's recent suggestion of more direct participation in federal and state government by engineers and scientists has been anticipated by **Newman M. Marsilius**, a Connecticut Assemblyman from 1951 to 1955 and a State Senator since then. Newman has just been elected chairman of the State Finance Committee for the 1961 legislature. . . . Far from these shores Atonio F. Paula Neto, a mechanical engineer, is Secretaria da Agricultura, Salvador, Estado da Bahia, Brazil. . . . Sperry Gyroscope Company reports that **Warren W. Menke**, engineering section head for low power tubes in the Microwave Tube Development Engineering Department, has been granted a patent for a Stall Prevention System for Aircraft. . . . The American Ceramic Society has published, in its February Bulletin, a paper by Dr. **William J. Knapp**, entitled, "Hot-Pressing of a Simple Tetralite-Clay Body." William is professor of ceramic engineering at the University of California, Los Angeles.

**John D. Iams**, of the U.S. diplomatic service, has returned from Athens, Greece, and settled in Washington, D.C., after a short stop-over in Tulsa. . . . **William F. Keyes, Jr.**, has moved from hot Havana to the American Consulate General, S.A. Mutual Building, Johannesburg, South Africa. . . . **Frank H. Hall, Jr.**, has left Mountain Lakes, N.J., for Ob Buhlstrasse 2, Kunsnacht, Zurich, Switzerland. . . . **Henry L. Hamilton, Jr.**, is now at Bahnhofstrasse 25, in Bremen, Germany. . . . We gather from **Bruce L. Dunbar's** changes of address that his family owns the Brook and Bridle Inn in Wolfboro, N.H. It was his stop-over-place in a recent move from Los Angeles to Wheeling, Ill. . . . Other changes of address were made by: **Lawson L. Bowers** to South Norwalk, Conn.; **Thomas S. Carroll** to Lever Bros. on Park Avenue in New York; **Russell J. Estelle, Jr.**, to Cheshire, Conn.; **George Hatzenbuehler** to Silver Spring, Md.; **Dr. Robert T. Olsen** to Chemed, Inc., in Arlington, Va.; **Mrs. John J. Osborn** to Belvedere, Calif.; **Major James C. Sadler** to Framingham,

Mass.; and **Joseph E. Welsh** to South Portland, Maine.

It is delightful to have so much copy for the Class Notes. Congratulations to you all on your achievements and thank you for writing in about them. The next several months, as I am starting in a new position, will entail my doing a lot of travelling plus moving the family. If we do not publish regularly and promptly we shall, nevertheless, publish all material sent in. . . . Best wishes for better golf scores from **Ed Edmunds**, still in Albuquerque, **Jack Quinn** still in Hawthorne, **Bob Keating** still in St. Louis, and your secretary, now in New York.—**Lou Rosenblum**, Secretary, Technical Investors Corporation, 27 William Street, New York 5, N.Y.

## '43

**Frederick K. Mulhaupt** has been awarded the Army's Superior Performance citation and \$250 for his achievements as a civilian engineer with the Pacific Transportation Terminal Command Headquarters in Fort Mason, Calif. He is chief of the Terminal Command's Engineer Division and also serves as the Small Business advisor for the Transportation Corps at Fort Mason. Among his achievements mentioned by the Army was his advance programming of architectural engineering projects at Fort Mason and Oakland Army Terminal. As a result of his foresighted planning, the citation says, the Terminal Command accomplished two years' work in one year. Fred and Mrs. Mulhaupt, the former Zonwice Poundstone, and their three children, Ricky, Dana and Ansel, live in San Rafael, 18 miles north of San Francisco. . . . **Howard L. Mattes** was appointed as vice-president-engineering of McKiernan-Terry Corporation in Harrison, N. J. . . . **A. Donald Moll** was elected as vice-president and sales manager of Minneapolis Electric Steel Castings Company of Minneapolis, Minnesota.

**E. Alfred Burrill**, vice-president and director of marketing, High Voltage Engineering Corporation of Burlington, Mass., delivered the Lester Honor Lecture at the Fifth Western States Convention of the Society for Non-destructive Testing in Los Angeles, Calif., in March. The title of his lecture was "High-Energy Nuclear Radiations—Their Implications for Industry." . . . **Lewis A. Rupp**, who did graduate work with our class, and is a retired U. S. Navy Captain, was named to the position of executive vice-president of Ionics, Incorporated, of Cambridge, Mass. He has served since 1958 as vice-president and general manager of this firm, a leading developer and manufacturer of electric membrane plants for water desalting and other industrial and military applications. . . . Captain **J. J. Stilwell**, who received his graduate degree with our class in marine engineering and naval architecture, is a co-author of an article which appeared in *Aerospace Engineering* in March, 1961, entitled "Hydrofoils At The Crossroads." He is presently head of the Hull Design



## 2-44

This month brings news from many sources, and the first to be reported is a note from **Si Bessen**, XI, who advises that since he graduated he has been in sales. He has specialized in the sanitary field: water, sewage and industrial wastes. In February he established Bessen & Associates in Los Angeles. The new company is looking for one or two more quality lines to represent, so anyone interested should contact Si. He advises that he had recently seen **Gary Loomis**, XV, **Bob Copey**, XV, and **Al Markus**, XV, at the M.I.T. Los Angeles club. It is certainly a help in writing these notes to have you fellows drop me a line. Si admits that this is the first time that he has written the Class Secretary, so I feel flattered! . . . A clipping from the Wakefield Item, advises that **Earle Hodgdon**, X, has been elected vice-president in charge of sales and director of Doe and Ingalls, Inc., of Everett. Earle has been chief chemist of the concern and has specialized in chemical marketing over the past 14 years. I saw Earle briefly last weekend, and he is still a bachelor.

Last month I attended the M.I.T. Club of New York meeting for the class, and picked up the information that **Ken Nelson**, XV, is president of Tech Products, Inc. The firm specializes in manufacturing nameplates—boiler type. My informant said he thought Ken's family included 12 children, but he wasn't certain. Maybe Ken can drop me a note, and bring us all up to date. . . . Also at the meeting, I heard that **Casper Schneider**, X, is a patent attorney with Howson and Howson in New York City.

Last weekend I was in Cambridge in connection with the M.I.T. Centennial Celebration. It was the most inspiring and stimulating experience that I can recall. It started Friday evening with a speech by Prime Minister Macmillan, then there were panel discussions on Saturday with an informal class get-together Saturday night and an academic procession on Sunday. Needless to say, during the three days, I had a chance to see and chat with a number of the classmates, and I shall put down the info I received, as received. . . . **John Nichols**, II, and wife Laura live in Lexington, Mass., with their four girls. He is with MITRE Corporation, working on airborne radars. . . . **Stan Warshaw**, II, is living in Newton, Mass., and is V.P. and partner of Technical Coatings, Inc. . . . Spent some time with **Pete Mathews**, XV, and his wife Dianne. He's working in the Instrumentation Lab at Tech. During the evening he was the key man in locating the manager of the Faculty Club, and getting eight thirsty classmates a drink. It was a masterful bit of salesmanship on Pete's part. . . . **Dick Whiffen**, VI, is assistant general manager of the Bendix plant in South Bend, Ind. He had travelled East for the celebration with his

wife Marjory who is Hawaiian. They met while Dick was in the Navy during W.W. II. . . . **Robert J. Horn**, VI, and his wife Shirley were there. He is living in the greater Boston area, and is a practicing patent lawyer. He has as one of his clients M.I.T. . . . **Clyde Snyder**, XV, is still single and is living in N.Y.C. where he is a stock analyst specializing in the chemical field with First National City Bank of New York. He lives on the island, and advises that he thus has a good deal of time to take in his avocations of art, music and literature. Clyde, by the way, went on to get an M.A. at Columbia, and another M.A. at Harvard Business School. . . . Someone advised that he had last heard of **King Cayce**, II, as a partner in the New York investment house of Cayce and McKeye. . . . **Alan Micheals**, X, is a professor at the Institute. He and Janet live in Lexington.

**Norm Beecher**, X, is living in Concord and with National Research Corporation. . . . **Arthur A. Fowle**, II, is a staff engineer at A. D. Little, where he has been for the past four years. He and Mary, and their five children live in Winchester, Mass. . . . **Al L. Hart**, I, and his wife Louise were at the dinner Saturday night. They live in Lexington and he's with General Radio. . . . **Ed Chalmers**, X, was at the dinner with his son Ed. Ed's with Atlantic Gelatin Division of General Foods. The Chalmers five children call Arlington, Mass., home. . . . **Russ Hedgecock**, XIII, is moving his wife, Laura, and their two children up from Alexandria, Va., since he has just accepted a position with A. D. Little. . . . On the steps of Buiding Six I ran into **George Hossfield**, VI, who lives in Walpole, Mass. He's in Product Engineering, Power Circuit Breakers, Allis Chalmers.

At the Faculty Club Saturday evening several of us were thinking of some of the co-eds in our class. It was resolved then and there that I should be appointed as a committee of one to ask them to write in and let us know what they are doing. Fortunately, I ran into **Egilda Witherell**, née DeAmicis, VII. She is a radiological physicist and does consulting, teaching, and research in the subject at New England Deaconess Hospital in Boston. On numerous occasions she has had the honor of giving classes at the Institute on the subject. By the way, her husband is the son of a member of the M.I.T. Class of '99. Any other co-eds reading these lines I hope will be moved to take pen in hand and give me some help on my project! . . . One last item: there was further discussion of the possibility of getting 2-44 and 10-44 together. I'm still waiting to hear from you as to your reaction. I shall try to give you a full report when I don't have quite so much news.—**Paul M. Heilman**, Secretary, Reflectone Electronics, West Main Street, Stamford, Conn.

## '45

Time flies by all too rapidly. It seems only yesterday that I wrote Class Notes for the April issue which actually arrived

a week or 10 days ago. A little spring house cleaning before we leap upon the uncompleted reunion year biographies!

**Bob** and **Anne Maglathlin** reported on their Christmas card the safe arrival on October 5, of a fourth son, Paul Chadwick. Yes, all concerned are doing fine. At last report Bob was president, owner, and what have you, of his own operation, Electronics Systems, Inc., in the Boston area. . . . **Jack Atwood** has moved North! Jack has been located in General Dyestuff Company's Charlotte office since 1952, serving as a technical representative and as manager, Charlotte Applications Laboratory. On March 1 Jack was named product line manager, Vat and Sulfur Dyestuffs, in New York. Congratulations on your promotion, Jack. We trust your golf will not suffer too greatly with the change. Another ATO has just moved to the New York area. After some eight or 10 years in Pittsburgh, **Al Oxenham** finds himself situated in Clifton Avenue in Newark, N. J.

What is happening to the '45 representation in the Pittsburgh area? **Tom** and **Jimmie Stephenson** moved from New Kensington to Knoxville, Tenn., about Christmas time. You will recall that Steve was most active in Pittsburgh M.I.T. affairs these past several years as he served Alcoa in many different positions. Best of luck to Steve and Jimmie as they move back home; home in that they both grew up in Knoxville. . . . **Pete Schwab** has moved to Pelham, N. Y., down in lower Westchester County, while we find **Julian (Jumper) Gammon** at Hercules Powder's Allegany Ballistics Lab in Cumberland, Md. . . . Yes, some have left Pittsburgh but we still have at least three stalwarts in the fold: **Andy** and **Anne Marocchi**, **Bill** and **Jayne Humphreys**, and **Ed** and **Elinor Stoltz**. Both Andy and Bill are with Westinghouse; Andy as a senior engineer and Bill as regional manager of the Sturtevant Division. Our Westinghouse lads might be termed opposites, for the Humphries have four daughters while the Marocchi's have three sons. Ed Stoltz, our roving secretary, of course, sells transite pipe for Johns Manville. I just noticed that a Pittsburgh couple has been overlooked: **Vignor** and **Mina Kavalier** of Rodef Shalom Congregation.

Treasurer and Class Agent **Bill McKay** reports that your attention to the Alumni Fund could be better. Yes, we realize that this is the Centennial or Second Century Fund year but you still have until July 1 to forward a nominal contribution to the Alumni Fund. . . . We regularly make mention of Treasurer **Bill** and Prexy **Dave Trageser** without a word about their families. Bill married Betty Elston back in '46 while he was still in Navy blue. Today the McKays, with Bill, Jr., David, and Linda, live in Framingham: I say today for I can remember a couple of joyous (?) years in Pensacola as well as several more years in Baltimore. Bill is a sales engineer with J. M. Pettingill Associates, Belmont, Mass. Prexy Dave waited until 1949 to marry Mary Stewart. The Tragesers have four children: Alice, nine, Charles, eight, Molly, five, and Kate, two and one-half. You



are all aware of Dave's success in Technical Sales at High Voltage Engineering.

We look forward to the active participation of the class in the SCF, the Second Century Fund. One of the recent flyers reported that **Jake Freiburger** was deputy chairman in the Dallas-Fort Worth area. Jake continues his successful laundry operations in Dallas, Houston, Atlanta, and Fort Worth, operating under the names of Pilgrim Laundry Corporation and Holiday Cleaning and Laundry. . . . **Nick Mumford** is assistant chief of Aero Sciences, Propulsion, at Chance Vought Aircraft in Dallas. Fortunately, Nick travels frequently and we usually manage to see him or at least talk with him here in New York about once a year. . . . **George Upton** is also with Chance Vought in Dallas. . . . **Tom Hewson** continues as director of Technical Planning at St. Regis Paper in New York. . . . **Jim Brayton** works in the same building as Tom but for another employer. After several years in the field Jim now serves Turner Construction Company as a purchasing agent. **Jim** and **Ellen Brayton** spend all their spare moments in the summer sailing the Sound and wherever else the winds may drive them. . . . **Bill Blitzler** continues to commute from Greenwich Village in downtown Manhattan to Jersey City where he works on Product Development as a vice-president of Lightolier, Inc. . . . **John von Hemmet** of Manhasset, Long Island, is still with Socony Mobil, while **Walt Borden** works for that friendly competitor, Esso Standard Oil Company, as an economic analyst in Bayway, N. J.

A year or so ago we had **Al Werner** out in California with, I believe, Hughes Aircraft. We now find him again but this time it is Huntington, Long Island. . . . **Nick Mumford** reports that **Steve Moulton's** address is 170 Fernbrook Avenue, Wyncote, Pa. . . . **Julian (Buzz) Busby** recently opened a new 16-lane bowling alley, BeeLine Bowl, in Okmulgee, Okla. We understand that this particular operation is only a sideline for Busby's first love continues to be oil wildcatting. Buzz and Lois stopped in St. Louis to spend a couple of days with **George** and **Norma Hetrick** when they returned from Snow Inn last June. . . . Speaking of Snow Inn, it was just a year ago that many of us were enjoying our 15th Reunion. Spring housekeeping has been completed—and none too soon, for time has run out. Hope to see you all next month. If not, please have a pleasant summer.—**C. H. Springer**, Secretary, Firemen's Mutual Insurance Company, New York 17, N. Y.

'46

Last chance to sign up for the big 15th Reunion to be held at the Snow Inn in Harwichport, Cape Cod, June 9, 10, and 11. If you have been holding back because of sitter problems, relax. Bring the kids with you. The hotel charges half-rate for children under 12, and sitters are easily obtained. As of this writing, the first of April, 29 are already signed on

the dotted line with many more indicating they will shortly be signing up. The following list, last names only, gives you an indication of the fine group already heard from. Siebert, Hansell, Robison, Spoerl, Sibley, Edgerly, Mark, Wentsch, Parish, Waters, Lyon, Ritterhoff, Hoag, Buckman, Nelson, Krenkel, Ward, Richardson, Davis, Ley, Shelton, Tebbetts, Kennedy, Schield, Sonabend, Craig, Hurter, Heuchling and Maynard. . . . At the Centennial Celebration Alumni Banquet Jan and I had the pleasure of dining with the **Lou Martins** and the **Ted Hennings**, and only inertia has kept them from sending in their reservation cards. Also at the banquet were the **Hurters** and the **Richardsons**. . . . According to my mail bag the Moyers, Perrys, McEwans, Bushnells and many others will also be signing up shortly. Don't you wait a moment longer. Send in your \$20 registration fee plus your hotel reservation requirements to **Jim Craig**, c/o Hotel Corporation of America, 464 Commonwealth Avenue, Boston 15, Mass., by airmail, and we'll be looking for you at the 6 P.M. cocktail party Friday night.

From the mail bag: **Stan Young** informs us of his position with Drake, Startzman, Shehan and Barclay, Management Consultants in New York. He makes his home at 32 Amherst Drive, Hastings-on-Hudson, N. Y. . . . **Herb Oedel** is vice-president of Spir-it, Inc., Malden, Mass., and lives at 166 Upham Street, Melrose, Mass. . . . **Ralph Bertram** is vice-president of the Greater Montreal Development Corporation, Canada, a firm engaged in developing and building. Recent projects have been an office building and a 150-unit apartment project. Ralph was married in 1957 and has one son. The Bermans live at Apt. 410, 3445 Ridgewood Avenue, Montreal, Canada. . . . **Bob Marks** is district representative for Pfaudler-Permutit Inc., and is responsible for sales in the Manhattan area of water treatment, waste treatment, and ion exchange equipment. Prior to this job he was associate editor of Power Magazine. The Marks live at 325 Clinton Avenue, Brooklyn 5, N. Y. . . . **Theodore Miller**, still a happy bachelor, is a field engineer for Burroughs Corporation. He lives at 424 Layton Road, Chinchilla, Pa. . . . **Lewis W. Lees, Jr.**, is treasurer and director of Caterpillar Brasil, with address at Caiza Postal 8239, Sao Paulo, Brasil.

**Ken Davis** is controller for Federal Systems Division of the IBM Corporation. He lives at 9119 Aldershot Drive, Bethesda, Md. . . . **I. E. Levine** is a process engineer for the Ethyl Corporation and lives at 9380 North Parkview Drive, Baton Rouge, La. . . . **Louis B. Wadel** has been with Chance Vought since 1948 and is now chief of Advanced Electronics for the Vought Electronics Division. Louis teaches servomechanisms in the Graduate Engineering School of Southern Methodist University, Dallas. He served as chairman of the 1956 and 1958 National Simulation Conferences, and of the 1959 National Automatic Control Conference. He is now vice-chairman of the Institute of Radio Engineers Professional Group on Automatic

Control. He is married, has two children, and lives at 3546 Caruth Boulevard, Dallas 25, Texas. . . . **Joseph C. Bates, Jr.**, is president of Bates Engineering Company, manufacturers of farm equipment and also engaged in rebuilding construction equipment. He is married, has five children and lives at 612 East Broadway, Sparta, Ill. Joe asks if I can give him **Bob Hudson's** address. Unfortunately, neither the Alumni Register nor I have it, so if anyone knows of it please drop Joe a line. . . . **Mason I. Lappin** is president of Lappin Bros., Inc., engaged in plumbing, heating, air conditioning and process piping design and installation in Malden, Mass. The Lappins have two daughters and live at 17 Appleton Street, Malden. . . . **Daniel D. Chase** is a sales engineer for Clark-Wilcox Company, earth moving equipment. He lives at 321 Orange Street, Manchester, N. H. . . . **E. C. Gauden** received his M.D. from Columbia in 1950. He is a clinical instructor of Medicine at Yale and also associate medical director of J. B. Roerig and Company, N. Y. The Gaudens have four children and live at 2 Seaview Avenue, Branford, Conn.

**Edwin A. Schläng** recently formed his own plastic extrusion company, Vanguard Extruders, Inc., and lives at 1948 East 24th Street, Brooklyn 29, N. Y. . . . **William L. Phelan** teaches math and physics at Newman Preparatory school in Boston and lives at 357 Beacon Street, Boston 15. . . . The Discoverer Project Officer for the Air Force Ballistic Missile Division was Colonel **Clarence L. Battle, Jr.** As such he was responsible for the developing and proving of the satellite recovery system which successfully recovered the payload capsule from the orbiting satellite last August. For his work he was awarded the Legion of Merit. Lee is married, has two children and lives at 241 Clydepark Avenue, Hawthorne, Calif. . . . **Stanley Goldstein** was recently made an honorary member of the Essex County (N. J.) Bar Association for his contribution of services and effort in the three-year program of establishing a new library and headquarters for the organization in Newark. Stan is a member of the American Institute of Architects, a past member of the Technical Advisory Committee for the Standard Building Code of New Jersey, and is a visiting lecturer in the Graduate School of Architecture at Princeton University. He makes his home at 29 Luddington Road, East Orange, N. J.—**John A. Maynard**, Secretary, 15 Cabot Street, Winchester, Mass.

'47

Members of the Class of 1947 who received advance degrees in that year: Your correspondent has several items of some interest. Dr. **William E. Kennel** was elected to the board of directors of Amoco Chemicals Corporation, his present position in the company being that of manager in charge of research. Dr. Kennel lives with his wife, Helen, and his two children, Richard and Barbara, in

Munster, Ind., which is located near the research facility of Amoco Chemicals. . . . Captain **Thomas R. Eddy**, U.S.N., was selected as one of the 150 participants in the 39th session of the Advanced Management Program held at Harvard Business School recently. Captain Eddy obtained his master's in Course II in our class, and is presently living in Washington, D. C. . . . Colonel **S. Y. Coker** has duties as commander of Fort Benning's 151st Engineering Group (Combat). Col. Coker received a master's in Civil Engineering at the Institute in 1947, and was active during World War II in the European Theater. He was directly responsible for the maintenance of the Ramagen Bridgehead, the first bridgehead into Germany, for the first three days after its capture in March, 1945. . . . The Society of Naval Architects and Marine Engineers had an article in a recent issue of their SNAME News, concerning the outstanding performance of some of their scholarship recipients, one of whom is Professor **James A. Fay** who is currently on the staff at the Institute, in the Mechanical Engineering department. Jim received one of the Society's Advanced Scholarship awards, and this was a direct reason for his attending Tech to obtain his master's degree. Subsequent to receipt of his master's, he obtained a Ph.D. at Cornell and has been on the staff of the Institute since 1955. Captain **Kenneth M. Tebo**, presently stationed in Washington, D. C., has been awarded the Navy's Commendation Medal for meritorious service in the development of production of the Fleet Ballistic System. Captain Tebo contributed in large measure to the highly accelerated development of the Polaris Weapon System, culminating in the successful firing from the U.S.S. George Washington over two years ahead of the original schedule. . . . Dr. **John C. Fisher**, who received his Sc.D. in 1947, has recently published an article on the Atomic Structure in Solids, particularly concerned with the study of the crystal structures with the field ion microscope.

On the undergraduate side, we have several interesting notes: Mr. and Mrs. **Michael J. Sheehan** of Medford were guests at the inaugural of President Kennedy in Washington. Mike has been a worker for J.F.K. since the early days of his campaign, and at the inauguration received mementos from the President. . . . **Ted Strand**, presently director of research of the Vehicle Research Corporation in Pasadena, Calif., was co-author of an article on recoverable air-breathing boosters, which appeared in the February, 1961 issue of Aerospace Engineering. . . . Dr. **Watt Webb** has been appointed assistant director of research in the extractive metallurgy department of the Union Carbide Metals Company in the Buffalo area. Watt has been with the Union Carbide since 1947, and left in 1952 to return to Tech under the auspices of an Allegheny-Ludlum fellowship. He received his doctor's degree in metallurgy in 1955 and rejoined Union Carbide at that time. He has held the positions of research metallurgist, senior research metallurgist, and co-ordinator

of the fundamental research group, prior to his present promotion. Congratulations.

In the Gazzetta del Massachusetts, with a weekly circulation of 13,900, **George Katz**, present treasurer of the class of 1947, had a reasonably complete biography. George is president and owner of Niagara, Inc., of Boston. They are in the business of manufacturing and merchandising therapy equipment. . . . From the Bath, Maine, Independent, we learn that **Abbott Fletcher** was a candidate for the Board of Education. Unfortunately, as of this writing we have not received the results of the February 13 balloting (evidently because of bad weather), so your reporter is unable to advise the results; we will guess that he won. . . . Received a letter from **Ed Kane** after publication of my letter from him, and he now advises that he is located with Kahn and Company, in Hartford, Conn., as vice-president in charge of Marketing. It's nice to know that if your reporter puts down the wrong information, he sometimes gets a better response than if he puts down the right information. Congratulations, Ed. . . . **Rae LaPier** has been appointed to the newly created position of director, administration, Planning and Control for the Research and Development Department of the Colgate-Palmolive Company. Rae received his degree in Course X, and has spent his entire business career with Colgate. . . . **Bob Lombard** was appointed sales representative for I-T-E Circuit Breakers, and is working out of this company's Philadelphia office. . . . As you all know, the Institute is presently in the midst of its Second Century Fund drive, in order to raise \$66,000,000. This is a lot of money, but please remember that every little bit helps. Don't send your checks to me, send them to the Institute. All for now.—**Arthur Schwartz**, Secretary, 8355 Blackburn Avenue, Los Angeles 48, Calif.

## '48

It is with deep regret that we report the death of our classmate, **George H. Maringas**, of Franklin, who passed away on February 16 in the Massachusetts General Hospital. He had been a consultant to the Air Force in the Atlas missile program. . . . The members of our class do get around in their travels. **Bruce** and **Betty Moseley**, of 913 Lakeview, Richardson, Texas, reported at Christmas time that during the previous year they had enjoyed visits with **Duke King** and **Eric Kula**. The Moseley clan numbers four, with Mary, two and one-half, and Bruce, four. . . . Speaking of children, **Gordon O. F. Johnson**, Director of Sales, Logetronics, Inc., reports the arrival of their third child, second son, on December 1, 1960, Brigham Newhall Johnson. . . . I quote a letter from **Dan Levin** to Dick Harris, written in March: "Ann and Dan Levin wish to announce they have just moved to 38 Westview Terrace, West Newton, having resided in Newtonville during the past seven years. I'm presently with Sylvania, having left the

Corps of Engineers about a year ago after being with them for nearly eight years." . . . **E. W. (Bill) Cummings** reports: "I was able last year to participate in a Business and Industry tour to Europe and the Soviet Union. We were in plants in Moscow and Prague, and also went to Leningrad and East Berlin; flew a Russian jet. A Review article last year was very thorough on what is to be seen. We had a fair amount of freedom, and were able to get away from the guides and see behind the facades."

**William Maley**, 479 Ridge View Road, Orange, Conn., is now director of development of Trans-Lite, Inc., of Milford, designers and manufacturers of lighting equipment for the transportation industry. . . . **Gregory Bassett** has been offered the post of agency director by the Greater Bridgeport (Conn.) Regional Planning agency. Mr. Bassett is now working in the planning field in St. Louis. . . . **Roger L. Sisson** has been appointed to a new staff position of manager, Program Analysis, Technical Staff, by Aeronutronic. Before joining his present company, Mr. Sisson was a partner in the firm of Canning, Sisson & Associates, a firm specializing in the design of data processing systems for commercial applications and related activities. . . . **D. S. Selengut** is author of an article on "Thermal Neutron Flux in A Cell with Temperature Discontinuities" in the January, 1961 issue of the Nuclear Science Engineering magazine. Dr. Selengut is manager of Advanced Reactor Physics at the Knolls Atomic Power Laboratory, Schenectady, N. Y., operated by the General Electric Company for the Atomic Energy Commission. . . . Lt. Commander **Frank R. Carter** is one of the authors of "The Navy's Flying Wind Tunnel," an article in the March, 1961 Aerodynamics and Fluid Mechanics magazine, describing the wind tunnel which utilizes a U. S. Navy Airship as a stable model carriage.—**Robert R. Mott**, Assistant Secretary, Box 113, Hebron, Maine; **Richard H. Harris**, Secretary, 26 South Street, Grafton, Mass.; **Harry G. Jones**, Assistant Secretary, 94 Oregon Avenue, Bronxville, N. Y.; **Herbert S. Kindler**, Assistant Secretary, 128 Elatan Drive, Pittsburgh 16, Pa.

## '49

We are faced with an embarrassment of riches this month. Consequently, I am postponing until the next issue the first in a series of biographical sketches of famous or "infamous" alumni. To start off instead, here is a letter from **Jack Fogarty**, dated last October 17. I owe Jack an apology for the publication delay. I rediscovered his letter during a search occasioned by the arrival of April 15 and the income tax. "I have a 'new' for the M.I.T. Alumni notes. The family increased August 31, 1960, with the birth of little Barbara Engle Fogarty. This makes two, our boy Eric, two and one-half, and now Barbara. I'm still with Remington-Rand Univac as department manager of Product Engineering on the



Univac Solid-State Computer line. This involved a one and one-half-month stay in the Iliion/Utica, N. Y., factory this summer, two weeks of which Peggy and Eric joined me there. Also there are frequent junkets to the St. Paul, Minn., laboratories. We expect to move into our new laboratory building outside of Philadelphia in January, '61, so this will mean a shorter and pleasanter drive for me." . . . The next item is a note from Betty Dyer with news of Ira's promotion, as follows: "Ira has just been named a vice-president for Bolt, Beranek and Newman. I'm very excited, and Ira is his usual calm, cool, collected self. (Very pleased, to say the least!) Hope you are all well and enjoying the spring. We are. Regards to everyone."

The class of '49 was well represented at the Centennial Celebration Dinner on April 8. We convened at Baker House for cocktails, compliments of the Institute, followed by dinner, speeches, etc. A total of 44 people inscribed their names and miscellaneous notes, which are transcribed below: **Joseph and Mary Vitka.** He is now with Compo Shoe Machinery. They have three offsprings with a fourth, due a week before the Centennial, which presumably will have arrived by the time these notes are published. . . . **E. Vernon and Barbara M. Dougherty** were married December 3, 1960, and are living in Radnor, Pa. He is working for Minneapolis-Honeywell. . . . Mr. and Mrs. **E. B. Wilson** were married in 1951 and are living at 41 Loring Road, Weston, Mass., and have two boys. . . . Muriel and **Ray Larson** are living at 33 Watson Avenue, Attleboro, Mass. They were married in 1955 and have two boys. . . . Love and **Frank Dinneen, Jr.** were married in 1950 and have two boys and one girl. They live in Changewater, N. J., and have a horse, eight cats, etc. He is with National Starch and Chemical Corporation in N. J., but is about to go to a new plant with them in Los Angeles. —**Frank T. Hulswit**, Secretary, 14 Nadine Road, Saxonville, Mass.

# '50

**Daniel L. McGuinness, Jr.**, our favorite Voo Doo Man, was elected vice-president of Proportioners, Inc., Division of B-I-F Industries of Providence, R. I., in a recent meeting of the Board of Directors. Dan joined Proportioners in 1957 as development co-ordinator and was promoted to assistant product division manager in 1958. Dan received his degree in Electrical Engineering and picked up his master's degree in Industrial Management from Boston University. He served in the Navy and at the time of his discharge held the rank of Ensign. Dan, as you know, is married to the former **Margaret Coltman** and has three daughters, Margaret, Susan, and Judith. Dan lives at 350 Red Chimney Drive, Warwick, R. I. I am sure that Dan would like to say hello to the '50 men in the Providence area. Meanwhile, Dan, drop me a note and update me on your new responsibilities. . . . I was pleased to re-

ceive the following letter from **Rory Hale, Jr.**, Course XVI, because he got my message and has responded beautifully. Rory states: "I hope to see more class news in The Technology Review. Since I enjoy reading news of my friends, here goes with a little on myself. I was released from the Air Force in February at Washington, D. C., where I had been an R & D Analyst in the Systems Analysis Division of Headquarters Air Research and Development Command. With our three children, Lyn and I spent a few weeks in San Antonio, Texas with her family. We moved to Denver, Colorado, in March. I am now working for the Denver Division of the Martin Company as a project engineer in the Advanced Programs Division's Space Technology Department. My work involves studying and working on advanced design of space vehicles. We have a broad program of space projects, some of which are government sponsored. I'll be responsible for overall technical direction of a project rather than any specialized input. I think I'll enjoy it very much. Best wishes to all." Now that Russia has her man in space up and back again, it looks like we'll have to depend on Roy to kick us up there too.

**K. H. Olsen** of Bedford, Mass., has been named Outstanding Young Electrical Engineer of 1960 by Eta Kappa Nu Association, national electrical engineering honor society. . . . **Basil T. Barber**, Senior Engineer in the Submarine and Anti-Submarine Warfare Engineering Department of Sperry Gyroscope Company in Great Neck, N. Y., received a patent for a Visual Indicating Signal Monitoring System. Other Sperry Gyroscope men who received patents are **Robert P. Nelson**, management services supervisor, **Kenneth Hudson** for Apparatus for Monitoring a Recurring Pulse Group, also **Warren F. Clement** and **D. R. Treffeisen**, research engineers in the Systems Research Engineering Department, for a Stall Prevention System for Aircraft. . . . Professor **John G. King** of M.I.T. received the third place award for a molecular beam apparatus in a national competition for new pieces of physics apparatus which advanced the teaching of college physics. The competition was held under the sponsorship of the Committee on Apparatus for Educational Institutions of the American Association of Physics Teachers.

**David E. Gushee**, an associate editor of Chemical and Engineering News, who has been in the Washington, D. C., editorial office of the American Chemical Society weekly for the past year, has been appointed head of the European editorial office in London, England. Dave is a native of Milton, Mass., and received his degree in Chemical Engineering. From 1950 to 1955, he was with the Grasselli Chemicals Department of E. I. du Pont de Nemours & Company as an engineer in process development, sales service, and production technical assistance. He served as an engineer in the U. S. Army Chemical Corps during the Korean War for a year and a half. In 1956 Dave joined the applied publications staff of the American Chemical Society in the Washington office and from

'57 to '59 was with the publications office in San Francisco. . . . Well, that's it for now. I'm going to go back to fixing up my card file. Won't you give me some information so that I can add something to these blank sheets of paper with the cold addresses and names staring me in the face? Looking forward to hearing from you soon. Best Wishes.—**Gabriel N. Stilian**, Secretary, American Management Association, 1515 Broadway, New York 36, N. Y.

# '52

Back again on the news front, and the first item is the annual Cocktail Party on Friday, June 9, 1961, at the Faculty Club Penthouse from six o'clock on. This makes our 9th reunion and we hope to see as many of you people in the Boston area as possible. . . . And speaking of reunions, our 10th is coming up next year and Committee Chairman **Sandy Isaacs** tells me that he is currently investigating suitable hotels. More later on this.

As you all know, M.I.T. had its big birthday celebration this April, and '52 was well represented at the Alumni Banquet, with 34 of us present (if the cocktails before dinner didn't spoil your secretary's count). Those present included: Class President Bob Briber and Kathie; Al and Fran Kandel, down from Nashua where Al is with Saunders Associates; Howie and Adele Zasloff up from New York where Howie is with Lummus Company; Dick Heitman who is with Arthur D. Little; Gus and Clo Rath; Jim and Marcelle Davidson, and Nick Melissas, all with Raytheon; Ken King and fiancée Chris Bergfalk, Ken now being back at Tech with the Second Century Fund; Doug Haven, M.I.T. Regional Fund; Architect Herb Eisenberg, and Melissa; Charles and Ellie Springer, up from Reading Tube, Reading, Pa.; Charles and Hannah Saltsman, Jr.; Dan and Helga Finger; June and David Wallace, Jess and Char Belser; Sandy and Stella Greenfield; Marilyn and Barney Berliner; and yours truly, D.M.F. We of course also had the chance to talk with many old friends from other classes. A really great gathering.

At a recent party ran into the **Dick Kilcups** from Salisbury, Mass., and found Dick and Mary Lou are working hard with their own plumbing and building supply business. . . . Saw **Dick** and **Jane Quigley** and learned that Dick is now with MITRE Corporation in Burlington. . . . Dr. **Anthony Ralston**, manager of technical computing of the American Cyanamid Company has been named an associate professor at Stevens Institute of Technology, Hoboken, and will have charge of the institute's new high speed computer, especially designed for scientific and technological applications. . . . And **Bernard F. Cassidy** has been appointed special manager of destroyer nuclear plant testing at Knolls Atomic Laboratory's field office in Quincy, Mass., where he is responsible for ensuring that the nuclear power plants for the DLG (N) 25 "USS Bainbridge" are tested and



forwarded on to Knolls Lab. for evaluation and action. The Bainbridge, the first atomic destroyer, is under construction at Bethlehem Steel shipyard, and Knolls Atomic Power Laboratory is operated for the Atomic Energy Commission by General Electric. . . . **C. E. Bethel, Jr.**, has been promoted to director of petrochemical market research with Continental Oil Company in Houston, Texas. . . . **Norman Rudnick** has been appointed director of the new Transducers and Materials Laboratory at Gulton Industries, Metuchen, N. J., where he will be responsible for recommending and controlling all technical matters regarding transducers and ceramics as related to Gulton's 12 divisions.

**J. Randolph Pauling, Jr.**, is now an assistant professor of Naval Architecture and Marine Engineering at the University of California and is a Doctor of Engineering in Naval Architecture. Randy has been a member of the scholarship committee of the Society of Naval Architects and Marine Engineers, having been a recipient of one of the Society's awards himself when he received his M.S. in 1953 and his degree of Naval Architect in 1954 from Tech. In addition he has found time to deliver several papers, one of them: "Stability of Tuna Clippers," presented before the Second World Fishing Boat Congress in Rome in April, 1959. . . . **Joe Alibrandi** is manager of Raytheon Company's South Low 11 missile plant.

**Henry Inouye** writes from Oak Ridge, Tenn., that he is a high temperature metallurgist with Oak Ridge National Lab., Division of Union Carbide Nuclear Company and presented a paper on Columbian at the Sagamore Conference last year. He is a past chairman of the Oak Ridge Chapter ASM. . . . **Samuel Cullers** is in Bangkok, Thailand, as a City Planning Advisor to the Ministry of the Interior, Government of Thailand, under a one man I.C.A. assisted contract, and is working on the Greater Bangkok Plan. . . . **Calvert McJilton** is with the USAF in San Antonio, Texas, as an industrial engineer who is leading a group in cost reduction for a five billion dollar supply organization, and mentions that after a few methods and systems improvements that they now have Bruce, Janette, Kurt, Jim, Ann, and ?. So help me, that's the way I received the list. . . . One wedding to report this month, that of **Peter B. Athens** and Martha Rathbun Reed in Utica, N. Y., in February. They are now living in Cambridge. . . . And that about wraps up the news this month. So drop a line, and we hope to see a good turnout on June 9.—**Dana M. Ferguson**, Secretary, 242 Great Road, Acton, Mass.

# '53

One classmate certainly is entitled to tell me that my "slip is showing." Many months ago I hazed **Betty Ann Ferguson Lehmann** to death until she dropped me a note with all the particulars on her life

for the past eight years. Finally she responded (beautifully, too). But, alas, the letter got filed away unseen and unheard of until now (it was ONLY dated May 13, 1960). Therefore, to properly "mend my fences," I will include most of it. . . . While the class of '53 was struggling through the senior year, I was in Wilmington, Del., getting used to married life (Fred and I were married in September 1952) and working for DuPont under the title of 'mathematician.' The work was mostly involved with computers, but was so varied it even included quite a bit of art work. The following year I returned to M.I.T. and after graduating in June of '54 Fred and I left for Kansas City. We lived there for nearly five years, the first three of which I worked for Westinghouse in the Aviation Gas Turbine Division. I analyzed engine performance of all sizes and shapes of jet engines, it seems, and became quite proficient in thermo. Since then I have been quite thoroughly occupied with Karl, three, and Pamela, one and one-half, and Fred, 29. We all returned to the Boston area about a year ago and are very happily situated in Boxford. At the moment I keep busy at home, help at the local library occasionally, and am just starting a term on the executive board of the M.I.T. Women's Association. . . . Thank you, Betty Ann. Sorry for the delay!

A note from the **Gil Gardners** informs all that they are returning to the Boston area as Gil has been assigned to Hanscom Field (between Lexington and Concord, Mass.). And, as Janie adds, "No other news except that we have no more children." . . . A post-card from **Serope Kalpakcioglu** brings us somewhat up-to-date. He is a research supervisor with the Cincinnati Milling Machine Company and is in charge of basic research in metal forming. Also, he has published a number of technical papers and articles as a result of his research. . . . A note arrived from another pair of California fans, **John** and **Dorothy Dunlay**. They moved there a year ago after a spell in Fort Worth, Texas. As Dorothy puts it, "We've been here a year now and don't miss Eastern winters or Texas summers." (They are living at Solana Beach. . . . Sigh!) John is now with General Atomic in San Diego; he was with Convair in Texas.

**Steve Kliment** was recently appointed editor of Architectural & Engineering News. This appointment follows terms of employment with Small, Smith, Reeb and Draz, Architects in Cleveland, and with Skidmore, Owings & Merrill, Architects and Engineers in New York City. After graduation, Steve continued his studies at Princeton University and received his Master of Fine Arts in Architecture. He also studied architecture in Paris (what a lovely thought!). . . . Last, but certainly not least, let us report on the March marriage of **Kenneth Fetting** and Virginia MacLellan here in Boston. Kenneth completed his master's in Business Administration after finishing at Tech, and his bride has a master's degree in Education from Boston College.—**Martin Wohl**, Secretary, Room 1-131, M.I.T., Cambridge 39, Mass.

# '54

Two relatively recent weddings lead the news parade this month. **W. Carleton Bartow** married Virginia Bonnano in Watertown, Mass., on February 11. The Bartows are living in Lexington, Mass. . . . **Bill Patten** and Bridget Griffin were wed in Boston on April 22. Word of the latter event was sent to us by Sam Losh, who adds that Bill is the production department manager for Cheesbrough Ponds in Clinton, Conn. I'm not sure about the name of that company; "Cheesbrough Ponds" is my best guess for what Sam actually wrote! . . . **Larry** and **Marjorie Leonard** are proud parents of Michael Alan, their first-born, who arrived on March 14.

**Dick Lane** yielded to the impulse to write from Paris in order to clarify a statement we made several months ago to the effect that he "was associated in some capacity" with "something or other." Dick, he tells us, is practicing law in Paris, and is "associated with Mr. Richard Cronan in a general international legal practice." Well—we're always glad to set the record straight on people's capacities. Dick, by the way, acquired a law degree from Harvard Law School last year. In the same letter was the news that **Manny Nadler** is also in Paris. He received the 1960 Oscar awarded by the Institut Francais d'Emballages et Conditionnement for a package he designed. Manny is currently establishing a packaging consulting firm and "exploiting several packaging devices that he has patented."

In addition to Bill Patten's wedding mentioned above, **Sam Losh** had all kinds of other news from California in his letter. **Walt Kroy** has gotten his master's degree in engineering from UCLA, and is now working on his doctorate at the same institution. He is working under the sponsorship of Douglas Aircraft. . . . **Harry Taylor** is toiling for the Aerojet people in Sacramento, and running his own plastics business on the side. . . . **Matt Baczewski** is also with Aerojet in Sacramento, Sam believes. . . . **John Reed Margulis** has departed from Hughes Aircraft and is now a marketing co-ordinator for a firm in South Pasadena. (Sam wrote the name of the firm, but I can't even make a worst guess on what it is.) . . . **Paul Gross** is an engineer for R.C.A. and is living in the San Fernando Valley. He and Sam are serving time in the same Air Force Reserve unit. . . . And Ol' Sam himself is a senior systems engineer for Hoffman Electronics. He is also actively engaged in the politics game, being campaign chairman of the Sunset Young Republicans.—**Edwin G. Eigel, Jr.**, Secretary, 321 North Thomas Street, Arlington 3, Va.

# '56

The weekend of April 7 the Alumni were allowed to attend the Centennial Celebration. The activities were inspir-

ing to scientist, businessman, and academic alike. You pessimists who feared a fund solicitation certainly missed one of the most invigorating assemblages of brainpower of your lifetime. The Saturday alumni dinner was attended by Dick Bush, Mort Cohan, the Steve Freedmans, Martha Goodway, the Malsters, Bob Pollard with lady friend, Jack Saloma, the Dan Schurzs, and the Carl Slenks plus your secretary with wife. . . . However, let us proceed to the celebration activities for our fifth year of liberation. The deadline of this article precludes the use of much information from the questionnaires. The initial response foretells large articles through next fall.

A recent Polaroid press release indicates that **John Gignac** joined the firm after his army tour, first as a production supervisor and now as a quality control engineer. . . . **Harry** and **Joan Heath** and their two boys have moved to Victoria, Texas. Harry is with DuPont in research. . . . **Bob Holden** has graduated from Harvard Med and is now in residency at Chapel Hill, N. C. The Holdens have three boys. . . . **John Merkl** is an eastern hemisphere crude and products programmer with ESSO Export in NYC. The Merkl's now have a second child, John Wilson. John receives credit for several parts of this article. . . . **Dave** and **Fran Morse** have a son, Jimmie. Dave is a nuclear engineer with General Atomic in San Diego doing development work on a high temperature gas reactor. . . . **Ed Najjar** and **Bob Pollard** are keeping busy at Hampshire Chemical in Nashua. . . . A letter from **Tony Turrisi** says that he is at the University of Wisconsin doing graduate work in English; Shakespeare, et al. I wonder if thermo is a prerequisite.—**Bruce B. Bredehoff**, Secretary, 1094 Center Street, Newton Center 59, Mass.; **M. Philip Bryden**, Assistant Secretary, Apt. 207, 3512 Durocher Street, Montreal 18, P.Q., Canada.

# '57

**Boyd Givan** earned a master's in finance and accounting at the University of Washington and passed his C.P.A. exams. Boyd is married and working for Arthur Anderson in Seattle. . . . **Bill Alcorn** is getting his Sc.D. at Tech in Chemical Engineering. Bill's wife, Janet, is a mezzo-soprano and teaches singing. . . . **Virgil Browne** completed two years at Ft. Belvoir and is now in Oklahoma City in the banking business. . . . **Nick Stevens** is getting his Sc.D. in Course X at Tech, and **Bob Murphy** is getting his M.S., also in Course X. . . . **Sandy Cobb** is with MMM in Minneapolis. . . . After graduation **Alan Borstein** worked for Esso Research and Engineering and, after military service, for Catalytic Construction Company. Alan is now in his first year at the Harvard Business School, as are **Lionel Fray** (same section) and **Dave Wolsk**. . . . **Jay Hyman** is with the Rocketdyne division of North American Aviation near Los Angeles.

Your class officers have selected **Gary Dischel** to be 5th Reunion Chairman.

Many of you will remember Gary as President of MITMA and Social Chairman of Beaver Key. After getting his M.S. in Course XV at Tech, Gary joined The Hotel Corporation of America in Boston (a natural position for a Reunion Chairman!). Gary will be assembling his committee this summer and those who wish to work with him should contact him. The Dischels, Gary and Judy, have just moved, so I will have to publish their address and phone number in the next issue. For those who plan their weekends well in advance the dates of our reunion are June 8 through 10, 1962. See you all there!—**Alan M. May**, Secretary, 525 East 81 Street, New York N.Y.; **Martin R. Forsberg**, Assistant Secretary, 11 Scottsfield Road, Allston 34, Mass.

# '58

News seems to be a little scarce this month. Either no one is doing anything newsworthy, or our class is filled with a lot of modest men (and women). Both seem unlikely. Just a note on a postcard letting me know what you are doing would be a great help. . . . Announcement has just been made of the engagement of Sara-Ann Rosner, an Emerson senior, to **Hillel Joshua Auerbach**, who will graduate from the Yale Law School in June. Right now he is research assistant to the Connecticut Commission for the Revision of the Corporation Laws. . . . Just read about the marriage of **William Charles Blaiklock** to Noreen O'Callaghan. Bill, a graduate of M.I.T.'s School of Marine Engineering and Architecture, is now stationed in Baltimore, Md.

The weekend of the Centennial I had a chance to talk to **Doug Johnson** who is traveling assistant secretary to the AIME. His time is mainly spent traveling throughout the country to various trade conferences. . . . A new business appointment of interest is that of **James S. Hetherington** as engineering manager of the Vacuum Furnace division of Richard D. Brew and Company, Inc., in Concord, N.H. . . . In my travels throughout the northeast I had a chance to get together with **Dave Larson** who is now located in Norwalk, Conn. Dave, teaching at Staples High School, Westport, Conn., is still passing out cigars after the birth of his second daughter. . . . I'll be waiting to hear from some of you.—**Cornelius Peterson**, Secretary, 301 Allston Street, Brookline 46, Mass.

# '59

Our deepest sympathy is extended to the family and friends of our classmate **Mike Pollack**, who recently died of cancer at The Washington Hospital Center. The family requests that expressions of sympathy be in the form of contributions to the Michael Pollack Memorial Fund, 3100 Military Road, N.W., Washington 16, D. C. . . . **Herb Priluck** married the

former Miss Anita Bent on January 29 in Quincy, Mass. Herb worked for a civil engineering firm in Boston, and now is enjoying a six-month Army stint. . . . **Bob Williamson** was over for dinner a few weeks ago. He has been working in Manhattan for an architectural firm after receiving two degrees last fall in Courses II and IV. Although graduating last year, Bob is affiliating with his fellow '59ers in Sigma Epsilon Chi. Bob is now spending six months in the Ordnance Corps at Aberdeen Proving Ground, Maryland. . . . **Bob Muh**, your loyal Class Secretary, is also basking in the splendor of military life for six months at Fort Lee, Va. Bob intends to head back to Boston after his Army hitch to that school "up the river" where he will study for his doctorate in business administration.

After spending four months at Navy O.C.S., **Bob McAuliffe** was commissioned in the Civil Engineer Corps in October. First orders took him for several months of schooling out on the West Coast. Bob is now assistant operations officer of Mobile Construction Battalion No. 7 (Atlantic Sea-Bees), currently on deployment in Guantanamo Bay. . . . **John Marko** is with the Physics Department at Syracuse University. . . . **Bob Cross** resides in Chicago. . . . **Arthur Nevins** is with the Department of Economics at the University of Rochester. . . . **Hank Siltanen** spends his time on the West Coast while **Don Tyra** suns himself in Orlando, Fla. . . . **Csaba Zoltani** can be reached in Oberengstringen, Switzerland. . . . I guess **Mel Platte** never made it to Germany; his new Army address is in Rhode Island. . . . **Harold Gilliland** continues his studies at M.I.T. . . . **Phil Beach** also gives the old stomping grounds on the Charles as his address. . . . The last group of facts was ferreted out of the Alumni Associations' Change-of-Address Files. You can see that I am very hard-pressed for information on the doings of you '59ers.

Even if most of us have the writer's cramp, the Alumni Association's clipping service has come through! According to the newspapers, **George Heller** and his wife announced the birth of a son, Steven, last December 16. The Hellers are now residing in Bethesda, Md. . . . **Edward H. Sussenguth**, who received his M.S. in 1959, appeared in a two-page recruitment ad for IBM. Ed is presently engaged in the development of IBM's cryotron-circuit computer. . . . **Norman Jacobs** received the Baker Scholarship, the highest scholastic honor to Graduates of the Harvard Business School. Norm received his Master of Science degree in 1959. . . . **James J. McInness'** wife, Catherine, has a new son, John Kennedy McInness, born the same minute as his Presidential namesake's new offspring. . . . Please drop me a line at my new address so we can keep this column abreast of the latest developments occurring in the lives of our classmates. Surely we have news of higher degrees, bigger families, or greater financial successes among our brethren.—**John J. McElroy**, Associate Class Secretary, Apartment 1K, 190 Mineola Boulevard, Mineola, N.Y.



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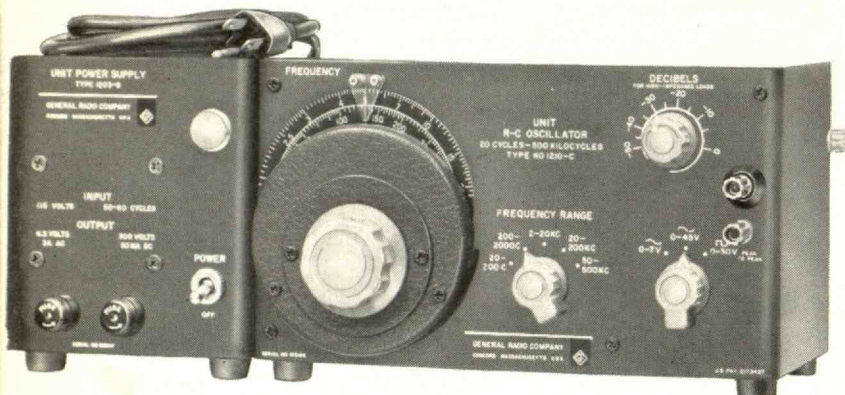
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